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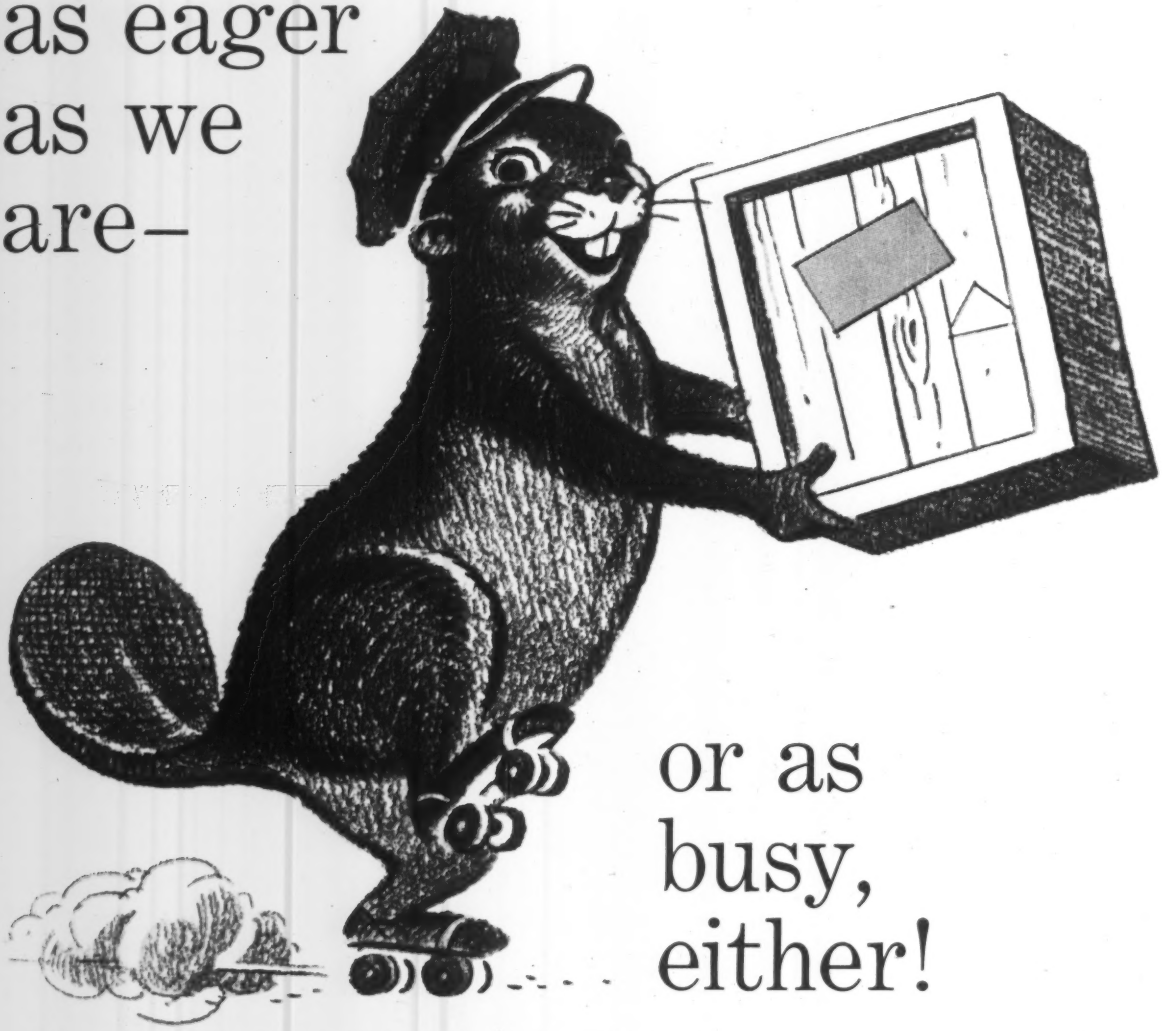

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EDITORIAL

"Sticks and Stones"

MEN have always sought justification for their actions, and when a word or phrase used to describe an action becomes tainted by misuse or abuse, they change the label if not the action. There is an obvious identification of interest between socialism and society, between communism and community, between humanism and humanity, but history has established a semantic destruction for each "ism." Capitalism, which is a method rather than a thing, generally symbolizes dynamic action, but to some people it is a synonym for greed, exploitation, and the abuse of power.

U. N. Ambassador Henry Cabot Lodge, in his perceptive address before the Economic Club of New York, acknowledged the nineteenth century sins of "capitalism" and offered in its stead the more realistic term "economic humanism." The phrase is a happy combination of words in their meaningful association, but both words are subject to a wide range of general and specific applications. Humanism in its historic sense derives from man's emancipation from feudalism. In its purely educational sense, it is identified with the introduction of classic literature. In its political sense, it refers to the rise of the common man, the beginning of trade, the period of adventure which led to the discovery of America, and the opening of trade lanes around the world.

But the nature of the beast is never changed by a change of name. We cannot quarrel with Ambassador Lodge for his opportunism in juggling terms with a master juggler like Khrushchev, but we must rise to the defense of capitalism for what it is and not permit it to bear the blame for what it is not. Capitalism is an accepted method for the employment of savings, of ingenuity, and of energy at risk for profit. Wall Street uses the term "people's capitalism" to characterize the ever-broadening base of share ownership in American industry, which in the case of several large companies has caused owners to outnumber employees.

Why not be honest in our definition of terms and their application? Capitalism as a method is as good, bad, or indifferent as its managers. Modern management, under the disciplines of the law and by the dictates of an awakened conscience, has a reasonably good record, despite some large and small exceptions. The time has come to face issues and criticisms with courage and stop sidestepping the poisoned darts of opponents.

Isn't it time to speak up and champion capitalism as a worthy servant of our way of life, recognize it for what it is and what it has accomplished, and stop apologizing for the sins of the robber barons who abused the privilege of its use? Capitalism is the tool of the successful manager, and we have the facts and the country to prove it.

A rose (or a scallion) by any other name is the same, no matter what we may do to alter the impression or excuse the action. We'll take capitalism for what it is.

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The Trend of BUSINESS

Production: *No real recovery from steel strike before early 1960*

Sales: *Retailers get ready for another record Christmas season*

Inventories: *Post-strike build-up won't match early 1959 levels*

Failures: *September failures show an unseasonable rise* (*page 13*)

FOREMOST in the thoughts of business men at the moment is, of course, the scope and tempo of the year-end business expansion following the return of the steelworkers to the mills. The outlook for early 1960 is clouded by the possibility of another steel walkout if no settlement is reached before the 80-day cooling off period provided by the Taft-Hartley injunction runs out.

Total industrial production will not hit its pre-strike peak until the early part of 1960.

If there is still no settlement by early 1960, chances are that it will take until later in the year for the Federal Reserve Board's index of industrial production to regain the record level set last June, but it will be climbing faster by mid-1960. Steel mills will not be able to operate at near capacity levels until the latter half of November. This will delay the return of many steel-related industries to the high levels of operation that existed before the onset of the strike and thus prevent any marked downturn in unemployment or any noticeable increase in the present number of jobholders.

Despite the repercussions of the steel strike, retail trade will remain at high levels.

Although steel shortages may limit supplies of some major appliances and thus cut into sales, over-all retail volume will not be too seriously affected, since Christmas shoppers will, as usual, be more interested in nondurables.

This will mean increases in manufacturers' new orders for nondurables, but gains here will not be enough to offset the declines in orders for durables that will result from scant steel supplies. When steel is available, new orders will show marked month-to-month increases.

Total business inventories will also feel the steel pinch.

The decline in over-all stocks that began last August is likely to continue through November, but accumulation will resume thereafter, barring another steel walkout and subsequent shortages. Although the rate of inventory build-up will be quite substantial as a result of low stock-sales ratios, it will not match that which occurred earlier this year during recovery from the recession.

Despite the longer-than-expected steel impasse, business men continue to revise upwards their plans for new plant and equipment expenditures.

Although this will mean gains in industrial construction, tighter money conditions will prevent any upsurge. More expensive credit terms will also affect residential construction. The leveling-off in housing that began around mid-year will turn into an actual decline either before year-end or early in 1960.

Both consumers and business men will be confronted with slightly higher prices in the coming months.

Although tighter credit conditions and a leveling-off in the money supply will prevent any noticeable increases in prices, creeping inflation will resume during the post-strike period of business expansion, a usual occurrence during periods of business growth.

The effects of the steel strike on over-all industrial output will not be severe, but its influence on total production will be felt through the end of the year. The Federal Reserve Board's seasonally adjusted index will likely show a 6 or 7 per cent dip in October from the 155 (1947–49=100) peak set in June of this year. An increase

ALTHOUGH GAINS WILL BE MODERATE, *output of durable goods will expand in November and December as steel supplies become more available and new orders move up.*

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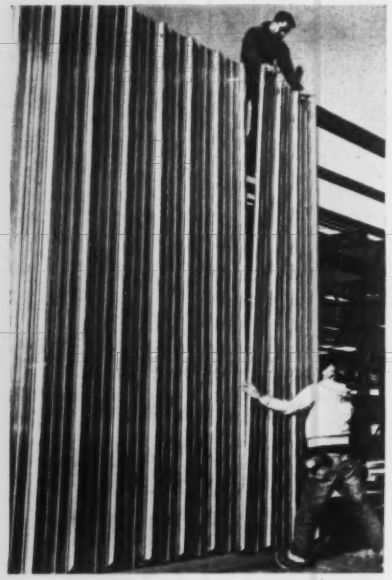

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will occur in December, but the record will not be matched or surpassed until some time during the first quarter of 1960.

Continued records in the output of apparel, furniture, floor coverings, food products, and most other consumer goods will be partially offset by lagging production of appliances, automobiles, and other steel-consuming products during December. Although there will be significant increases in these latter categories early next year, they still will lag behind the new records to be set in over-all industrial output.

The lengthy steel shutdown has damaged many furnaces, and it is unlikely that most mills will be able to operate anywhere near pre-strike levels until at least mid-month. Even if there is a resumption of operations under a Taft-Hartley injunction, continued labor unrest may also make it difficult for some mills to operate at near-capacity levels.

The steel shortage will be alleviated a bit by continued high levels of imports of steel and steel products in the coming months.

Although automobile sales dipped more than seasonally in September, new models boosted October sales, according to early estimates.

This has led many industry officials to expect sales of domestic makes in 1960 to be somewhere between 6 and 6.5 million. This would be the best year since 1955.

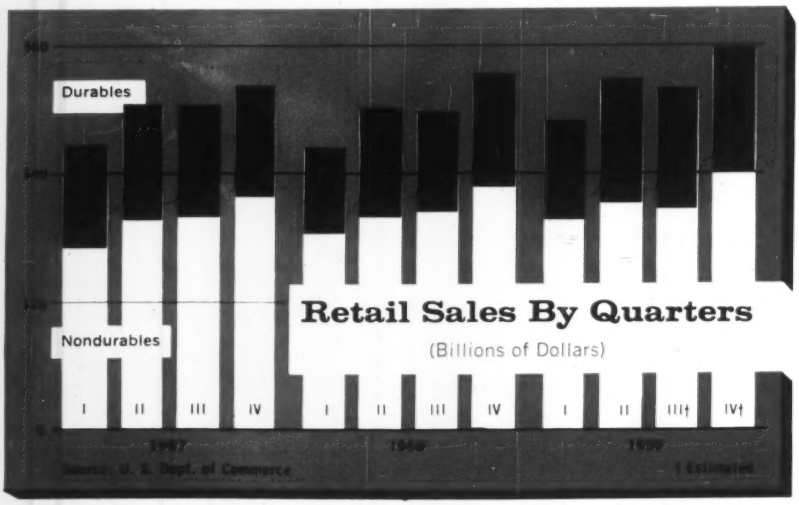
The outlook for the rest of 1959, however, is not quite so rosy. Already auto producers have had to make noticeable cutbacks in their output schedules for November because of steel shortages and labor difficulties within their own ranks. Producers are especially concerned since the public's reaction to the 1960 models introduced during October was so favorable.

The year-to-year declines in coal output that have prevailed since the start of the steel strike will remain until the steel industry is able to make significant gains in production. The outlook for the coal industry in 1960 is brighter, however, since the general rise in steel production, plus use of more iron ore and less scrap, will increase the steel makers' demands for coal.

Large stocks of many petroleum products are on hand, and it is likely that crude oil production will remain below year-earlier levels in the coming months. Substantial year-to-year gains in electric power output will continue and perhaps even widen, as over-all industrial output moves up in early 1960.

Production increases during early 1960 will bring unemployment down to somewhat below 5 per cent of the workforce.

However, the secondary effects of the steel strike in related industries will hold the level appreciably above 5 per cent through the end of the year. For the same reasons, the recent rise in the number of employed will be temporarily halted in the final months of this year, but this increase will be



STEEL SHORTAGES *may cut into stocks and sales of some durables late this year, especially automobiles and appliances, but over-all retail volume for 1959 will hit a record.*

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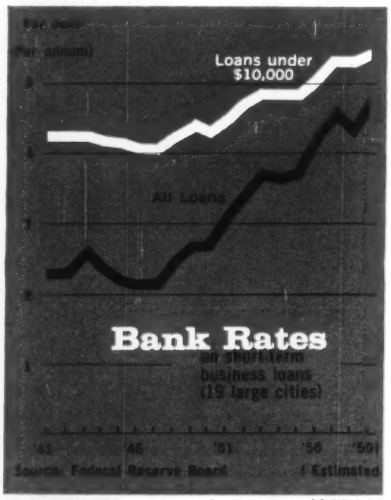
resumed during the first quarter of 1960.

Profit reports for the third and fourth quarters of this year will show declines from the records set during the first half.

Effects of the steel dispute will be responsible for the declines, but profit reports are likely to be quite optimistic in the first six months of next year as business activity expands. This, along with the expectation on the part of many business men that more capacity will be needed to accommodate increased production, will sustain a high level of spending for new plants



BANK RATES *on large loans over $200,000 have climbed noticeably, from 1.8 per cent in 1941 to about 4.5 per cent in 1959.*

and equipment through most of 1960. Steel shortages will hold actual spending during the fourth quarter of this year below anticipated levels.

The drop in machine tool orders begun in July will continue until full steel production gets underway, but industry officials expect a marked rise shortly thereafter. This optimism was induced by the fact that declines in the metal-cutting field were less pronounced than in most other types of tools.

Contract awards for industrial construction have fallen below expectations in recent weeks.

Much of this is likely due to uncertainties over steel deliveries and prices, but a good part of it may be the effects of tight money and rising interest rates. This also may hold back

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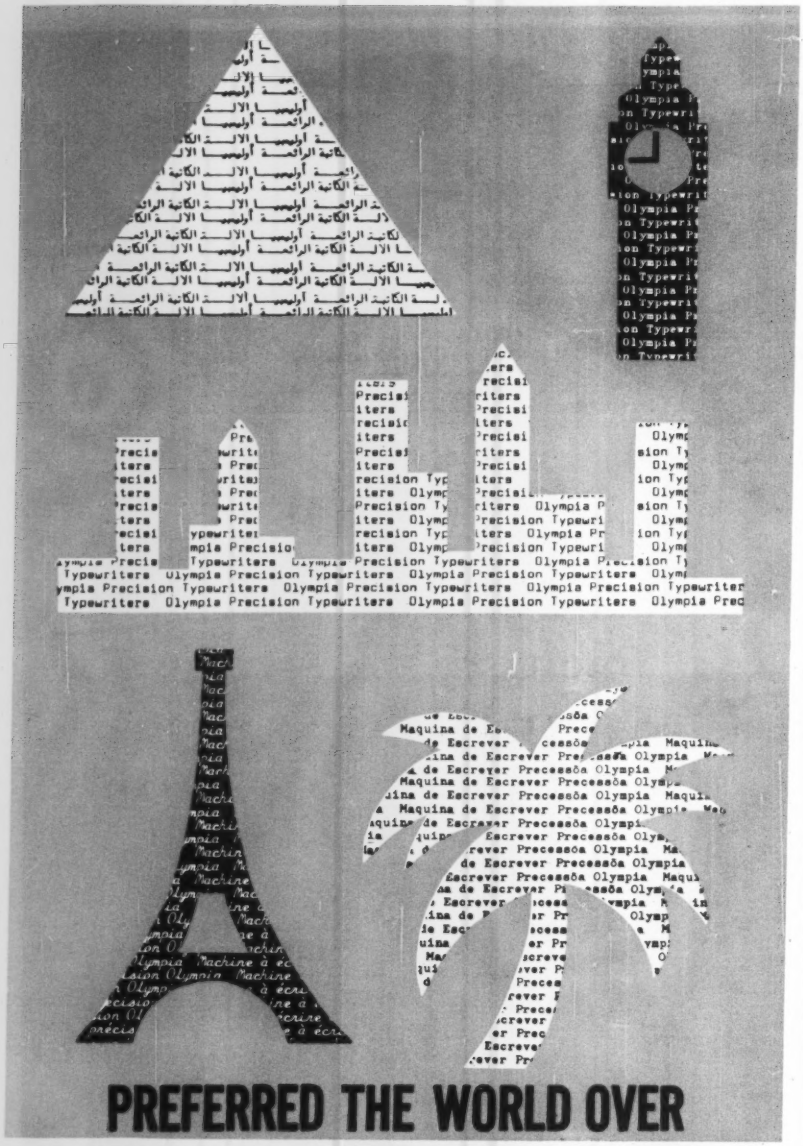

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some contracts for other types of non-residential construction. Over-all construction activity will be influenced by a leveling-out in Government outlays for highways, as well as by decreases in home building.

More and more prospective home buyers will be discouraged in the coming months by higher mortgage interest rates, but the number of new housing starts for 1959 as a whole will total somewhere between 1.3 and 1.4 million, up appreciably from the 1.2 million of 1958. If mortgage loans continue to be as expensive, starts in 1960 are likely to drop about 10 per cent from this year.

Retailers can expect continued high sales levels.

Christmas selling is likely to set another record, with a gain somewhere around 7 per cent over a year ago. Higher personal incomes will allow shoppers to spend more on higher-priced merchandise.

Although shortages in some lines will restrain gains in the immediate future, year-to-year gains in household durables will continue to be more noticeable than those in most other types of merchandise through the rest of this year and well into 1960. Much of the rise in appliances will be due to the replacement by consumers of worn-out television sets, refrigerators, and laundry equipment.

Many shoppers will buy these big ticket appliances, and some other commodities such as automobiles, on time, and consumer credit outstanding will remain at peak levels in the coming months. However, borrowing will be more expensive, which will tend to restrain any excess borrowing.

A further rise in interest rates charged by banks to business is likely as business activity picks up after normal steel operations are resumed.

Bank loans will expand as business men need money for financing outlays for new plants and equipment, as well as for inventory build-up.

Forecasting, a tricky business at best, was exceptionally risky as we went to press, with the fluid situation in steel and the possibility of a break in the industry's united front clouding the business outlook.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by John W. Riday.

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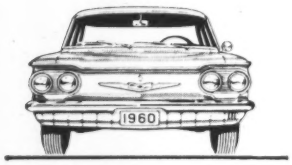

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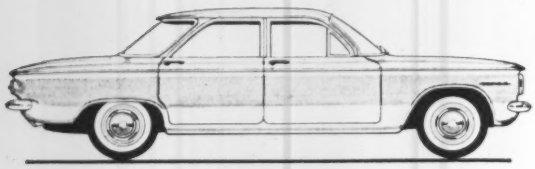

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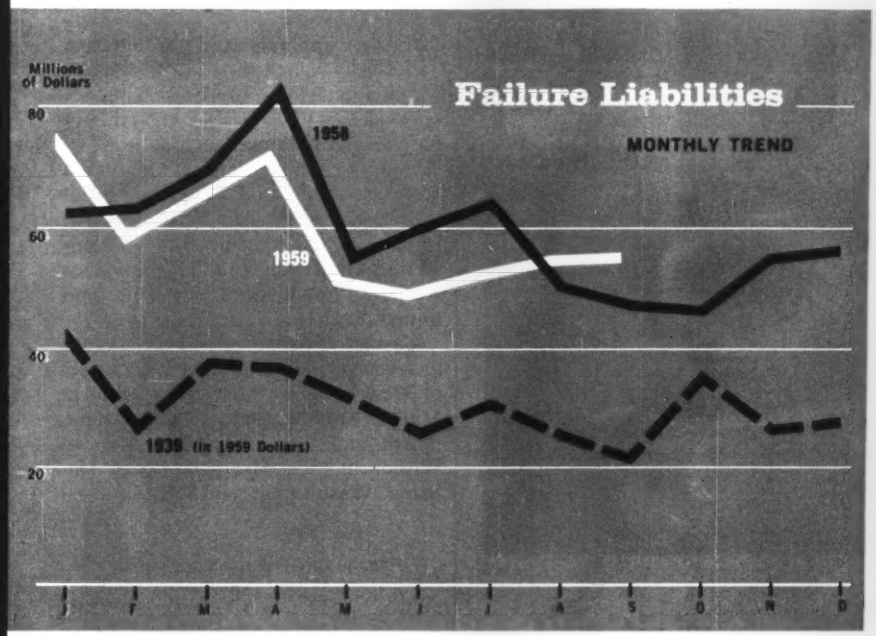
September casualties top 1958 total

Liabilities continue to climb



BUSINESS failures, running counter to the usual seasonal downtrend, continued to edge up in September. A total of 1,144 concerns succumbed—more than in any month since June and 10 per cent more than in September 1958.

The number of casualties stood at the highest level for any September since 1932, but their rate in relation to the total operating population remained relatively low. Businesses were failing at an apparent annual rate of 58 per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*. Although this rate was the most severe so far in 1959, it was well below the toll of 70 per 10,000 in prewar 1939 and less than 40 per cent of the 155 set in September 1932.

Liabilities, up for the third month, totalled $54.7 million. In all size groups except the $5,000 to $25,000 class, more casualties occurred than in August. The steepest climb was noted among casualties involving liabilities in excess of $100,000, which were the most numerous since April.

Service casualties dipped during September, particularly in the transportation line. In other functions, however, mortality exceeded August. Construction suffered the most casualties since May 1958. Retailing tolls generally ran above those in the preceding month, with apparel store failures reaching their highest level since April. Manufacturing casualties equalled or

continued on page 14

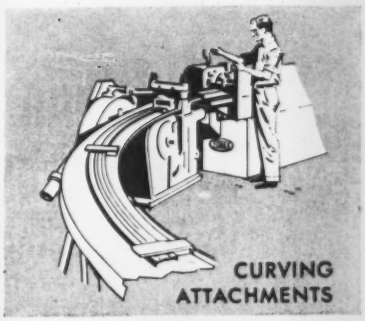
THE FAILURE RECORD

	Sept. 1959	Aug. 1959	Sept. 1958	% Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	50.8	48.5	46.5	+ 9
Adjusted, seasonally	58.4	53.3	53.4	+ 9
NUMBER OF FAILURES	1144	1135	1039	+10
NUMBER BY SIZE OF DEBT				
Under $5,000	161	147	143	+13
$5,000–$25,000	539	579	447	+21
$25,000–$100,000	326	322	342	− 5
Over $100,000	118	87	107	+10
NUMBER BY INDUSTRY GROUPS				
Manufacturing	192	187	187	+ 3
Wholesale trade	105	103	96	+ 9
Retail trade	563	542	506	+11
Construction	191	181	163	+17
Commercial service	93	122	87	+ 7
LIABILITIES (*in thousands*)				
CURRENT	$54736	$54501	$48103	+14
TOTAL	54921	54624	49565	+11

*Apparent annual failures per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*

†Percentage change, September 1959 from September 1958.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in a loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.



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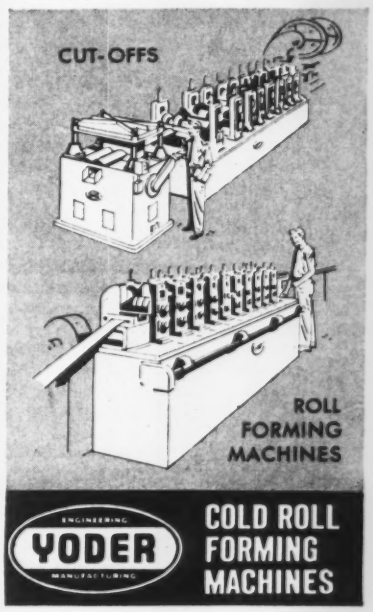

Prime Industrial Sites Waiting!

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Transportation. The Valley is North America's new front door, port for the Seaway which brings northern Canada, the U. S. and Europe closer together by days. Now building is a super-highway net to link the Valley with the metropolitan American belt stretching from Boston to Milwaukee.

Development of natural resources is well under way. Major iron and steel companies are operating mines in the area. Natural resources such as limestone, graphite, talc, lead and zinc are also being exploited. Hardwoods are abundant. A huge share of the area's milk production ... a billion-plus pounds a year ... is immediately available for industrial uses. Electric power is plentiful at low rates and the water supply is limitless ... the St. Lawrence River has the second largest water flow in the world (only the Amazon has more).

The business climate is favorable. People here are enthusiastic about industrialization. Labor-management relations are good and labor productivity extremely high.

Already established in the Valley are such industries as aluminum refining, automotive castings, paper and dairy products. Opportunities in related fields are plentiful, especially in woodworking, metallurgy, metal fabrication and the manufacture of electrical components. Sites, many of them on the River, are available. For specific information, contact the Director of Area Development, Niagara Mohawk Power Corporation, Dept. D-11, Erie Blvd. West, Syracuse 2, New York.

NIAGARA MOHAWK

exceeded August levels except in the lumber industry.

More concerns succumbed in all types of operation than in September a year ago. Construction fatalities rose 17 per cent, largely in heavy construction and general building. In retailing, increases in the food, general merchandise, apparel, and automotive trades outweighed dips in other lines. In manufacturing, year-to-year changes were slight—the petroleum industry suffered the only marked rise.

Geographically, failures increased between August and September in all regions except the East North Central, Mountain, and Pacific States. Nonmetropolitan tolls ran the highest since April, although large city tolls continued down.

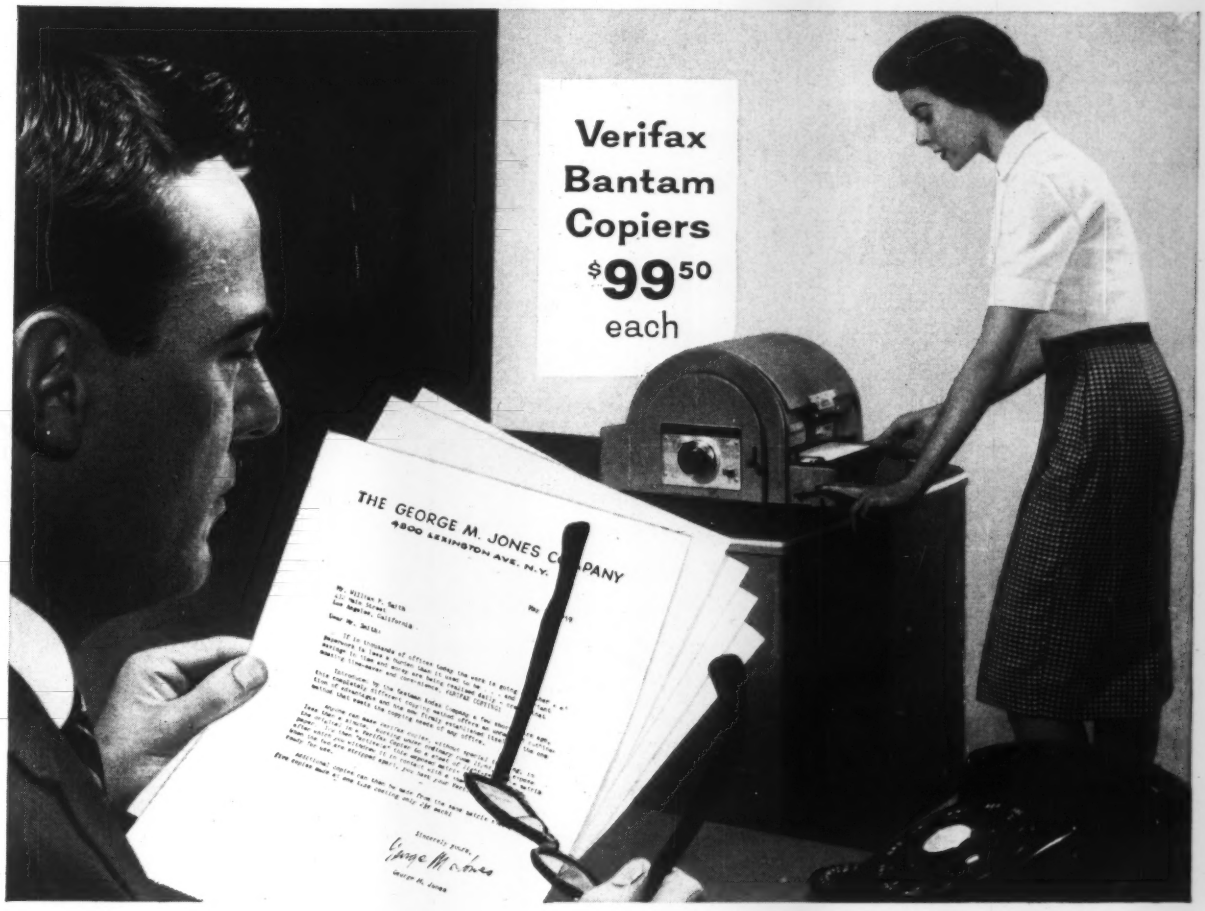
Casualties topped year-earlier totals in seven of the nine regions. Increases of 30 per cent or more were recorded in Maine, Massachusetts, Pennsylvania, North and South Carolina, Illinois, Wisconsin, Kansas, Arkansas, Alabama, Washington, and Oregon.

FAILURES BY DIVISIONS OF INDUSTRY

	Cumulative total (January—September)		Liabilities in million $ (January—September)	
	1959	1958	1959	1958
MINING, MANUFACTURING..	1,818	2,090	145.7	195.6
Mining-coal, oil, misc....	64	65	5.5	11.9
Food and kindred products	140	154	11.2	14.5
Textile products, apparel.	296	400	16.4	28.3
Lumber, lumber products.	368	397	18.0	25.2
Paper, printing, publishing	124	138	7.3	7.1
Chemicals, allied products	49	50	3.7	2.8
Leather, leather products.	56	80	5.7	11.5
Stone, clay, glass products	40	49	3.9	9.6
Iron, steel products.....	103	134	7.9	13.6
Machinery.....	181	218	28.1	21.7
Transportation equipment	73	58	6.1	14.1
Miscellaneous.....	324	347	31.9	35.3
WHOLESALE TRADE.....	1,038	1,081	62.5	59.1
Food and farm products.	216	257	19.2	16.3
Apparel.....	30	51	1.4	2.5
Drygoods.....	27	34	1.0	1.1
Lumber,bldg.,mats.,hdwre.	110	136	7.5	9.3
Chemicals and drugs.....	46	36	1.3	.7
Motor vehicles, equipment	56	48	2.8	1.4
Miscellaneous.....	553	519	29.4	27.7
RETAIL TRADE.....	5,343	5,792	185.1	178.2
Food and liquor.....	882	850	25.0	20.1
General merchandise....	239	223	15.1	8.9
Apparel and accessories..	818	907	33.8	24.5
Furniture, furnishings....	644	837	28.6	35.5
Lumber,bldg.mats.,hdwre.	342	396	12.0	12.6
Automotive group.....	743	821	18.7	31.1
Eating, drinking places...	1,018	1,084	28.0	29.3
Drug stores.....	84	129	2.4	3.3
Miscellaneous.....	573	545	21.5	12.9
CONSTRUCTION.....	1,551	1,634	92.2	88.8
General bldg. contractors.	540	654	51.1	47.2
Building subcontractors..	889	890	32.3	31.3
Other contractors.....	122	90	8.8	10.3
COMMERCIAL SERVICE.....	968	893	44.2	45.5
TOTAL UNITED STATES.....	10,718	11,490	529.7	567.2

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

This report was prepared in the Business Economics Department by Rowena Wyant.



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PERCY L. DOUGLAS, *executive vice president, Otis Elevator Company*

Opportunity and Challenge

The worldwide business outlook for the fabricated metal products industry is excellent. There's going to be an avalanche of metal products manufactured, sold, and used.

Since the end of World War II, we have witnessed the tremendous progress made by most of the free nations of the world in strengthening and developing their economies, and we expect this trend to continue, though perhaps not at the same pace. In addition, the trend toward economic unions between countries cannot help but result in increased trade and productivity.

But the practical job of taking advantage of the opportunities that exist is not so easy. Not only are we going to have to work hard to hold the business we have, but we are going to have to redouble our efforts to keep abreast of these steadily growing markets. Competition is rapidly increasing within foreign countries as well as in international trade. The scientific developments and improved production techniques of European manufacturers are steadily widening the acceptance of their products on a standard of quality comparable to our own.

From a speech before the National Industrial Conference Board.

J. W. ORAM, *vice president, personnel, Pennsylvania Railroad*

The Human Phase

Today, industry is coming to grips with the pressing problem of anti-productivity, or featherbedding. Management's determination to eliminate inefficient work practices, costly methods, unneeded jobs has set the 1959 climate of collective bargaining.

That is why you often hear repeated the gloomy observation that we are entering a new phase of industrial relations, that the period of "good feeling" is over. To a certain extent the statement is true. We *are* entering a new period of industrial relations. But the era of good feeling between management and labor doesn't have to be over if both sides will view the problem unemotionally and work toward solving it with

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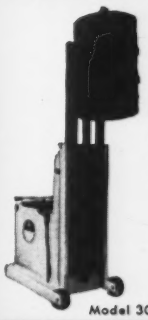

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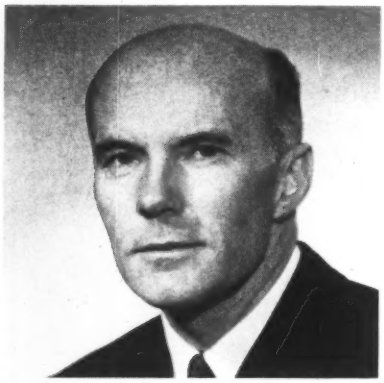
statesmanship. Any other course will bring hardship, bitterness, long-lasting scars. For we have at last come to the human phase—the emotional phase—of the new industrial revolution. It would be foolish to believe that it can be completed with a change, without a certain amount of inconvenience to some people. But that process of change can be minimized, the dislocations in the industrial workforce that labor fears so greatly can be considerably reduced through mutual cooperation and far-sighted planning.

From a speech before the American Management Association's Fall Personnel Conference.



CHARLES R. SLIGH, JR., *executive vice president, National Association of Manufacturers*

The Fruits of Capitalism

Profit is the ultimate arbiter of the free market. It determines what shall be made and offered for sale. Products which fail to earn a profit disappear from the market. Products the public decides it likes and for which it is willing to pay continue to thrive.

The socialists say this is bad. They say it is wasteful. They say it results in the production of things we don't need—such as fancy cars, or striped toothpaste, or rock and roll records—to the neglect of some things they think we ought to pay more attention to, such as more housing, more schools and hospitals, more social welfare programs.

Well, of course, all of us believe that progress must be made in these areas. I would like to point out, however, that the people of this nation under private capitalism are generally better housed, have more and better schools and hospitals and churches, and take better care of the underprivileged than any other people in

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the world! On the other hand, after 42 years of socialism in Russia, the only people who are living well by American standards are the bureaucrats and other members of the new ruling class. The average Russian family, with both husband and wife working, doesn't live as well as an American family on relief.

From a speech before the Circle Pines Center Youth Study Institute, Cloverdale, Mich.

JOSEPH A. GRAZIER, *president, American Radiator and Standard Sanitary Corp.*

Sharing the Load

Management has long been aware of how vital to the health and well being of business are the health and well being of the city in which its business functions. It is, therefore, only good, sound business for industry to assume responsibility toward the support of the community agencies which are providing facilities to care for our citizens and their myriad problems. No one business or industry could shoulder this enormous burden.

But for every corporate gift that represents management's acceptance of community responsibility, there are many "token" contributions made by companies content to let others bear the heaviest burden. For every executive who personally involves himself with community fund programs, there are dozens who cannot find the time.

When private and industrial citizens fail to meet their responsibilities in this area, there is nothing left for the city, state, and Federal governments to do but to step in and fill the gap. If the concept of good citizenship is to remain where it belongs—in the capable hands of the citizens of the community—every one of us must shoulder his full share of the load.

From a speech before The Greater New York Fund.

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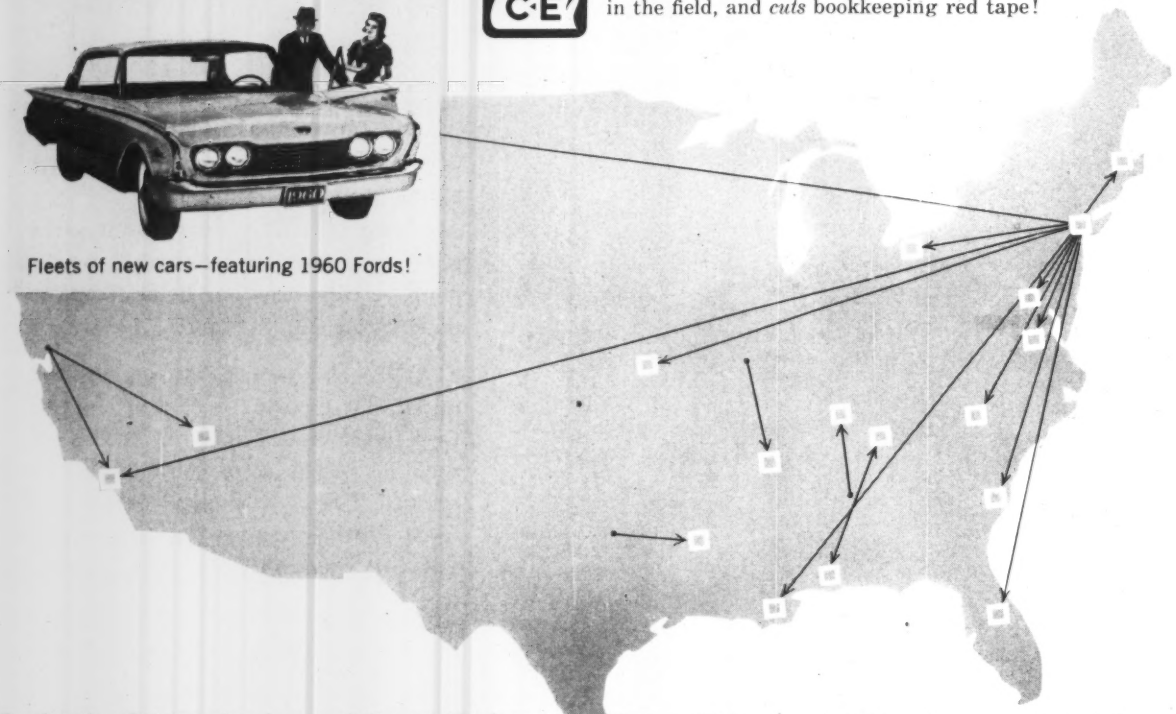

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WASHINGTON Business Front

JOSEPH R. SLEVIN

» *Lobbyists come running as Ways and Means Committee opens a sweeping investigation of the tax system, but . . .*

» *. . . Capital observers see little chance Congress will plug enough loopholes to make a tax cut possible.*

» *When Congress returns, a group of hard-hit business men will be waiting to protest the tight-money policy.*

WASHINGTON, D.C.—The House Ways and Means Committee this month is beginning a wide-ranging tax study that could accomplish a great deal but probably won't. The group plans to examine the Federal individual and corporate income tax system. The study is the pet project of the committee's knowledgeable chairman, 50-year-old Rep. Wilbur D. Mills, a youthful looking Democrat who long has contended that the only way to get enough revenue to justify a substantial reduction in individual and corporate rates is to tax income that now escapes taxation.

Sharing the burden

Mills looks on the tax study as the first step toward his objective. He calls his plan "broadening the tax base" and argues that rates are high because an "erosion of the tax base" has made it necessary to load a heavy burden on the kinds of income that still are subject to taxation at the regular rates.

The Arkansan has high hopes for his study, but just about everybody else is skeptical. Perhaps there are too many cynics in this political city, but the blunt fact is that the people who know Washington best are the ones who give Mills the least chance of achieving any major tax reform.

The chief trouble is that most of the special tax exemptions and deductions are in the law because there was powerful pressure on Congress to put them there in the first place. It's as certain as anything can be that the people who won the special concessions will fight even harder to keep what they have won. Huge sums will be at stake, and the capital's ablest lobbyists will be pressuring the lawmakers to keep the special privileges on the statute books.

Bitter with the sweet

Mills thinks that the only way to get important revisions enacted is to wrap them up in an omnibus bill that will combine the withdrawal of a multitude of special privileges with substantial cuts in individual and corporate income rates. He recognizes that Congress will not endorse a series of piecemeal changes and thinks that the only hope of mustering sufficient public support is to write a bill that simultaneously shows the public the privileges that are being withdrawn and the rate reduction benefits that will follow.

The chairman has a notion that public opinion will come around to his side if people can see that enactment of a broad revision bill will yield, say, approaching a $5 billion tax cut.

But the skeptics don't think that Congress could begin to vote $5 billion worth of withdrawals of individual concessions in the face of vigorous pressure-group opposition, and they don't think unorganized taxpayers can stand up against the tax lobbyists any better than consumers as a group can enforce their will on other legislative issues.

The committee plans to begin its inquiry by holding a public hearing on November 16. There are to be 22 days of morning and afternoon sessions that will continue through December 18. The committee has designed its hearings as a series of panel discussions among its witnesses.

Oft-told tales

But at the moment, there's a deep feeling of disappointment among some of the tax experts who had held the highest hopes for Chairman Mills' project. The list of witnesses, instead of being dominated by objective students of taxation, is heavily loaded with officials of big companies, spokesmen for trade associations and labor unions, and lawyers, accountants, and consulting economists who will voice the opinions of the clients they represent.

"This kind of hearing can only be as good as the panelists, and I'm afraid there's going to be too much ax-grinding," one tax authority says. "It's a waste of time to hold hearings if when you tell me the name of the witness, I can immediately tell you what he'll say. Too many of these people are getting paid for arguing from a previously prepared position, and they wouldn't dare depart from it."

A tremendous number of people have a big stake in one or another of

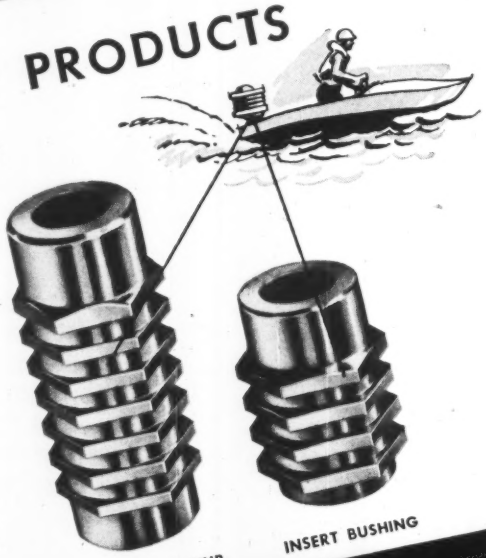
continued on page 26

two typical cases where MUELLER BRASS *determined the best and most*

CASE HISTORY 1750

SCREW MACHINE PRODUCTS for outboard motors

Mueller Brass Co. Methods Analysis Engineers, after careful consideration of every aspect of the job requirements, found that the best method of producing these 2 outboard motor parts at the lowest cost was as screw machine products made from hollow hex rod. The insert drive hub and insert bushing are used in the lower units of one of America's most powerful outboards and must absorb constant punishment without failing. Mueller Brass Co. has one of the world's largest automatic screw machine departments fabricating both ferrous and non-ferrous custom parts. Parts can be produced in an infinite variety of shapes and sizes from ⅛" to 3¼" in a wide range of free cutting and specialized alloys. Complete facilities are available for all secondary and finishing operations, as well.



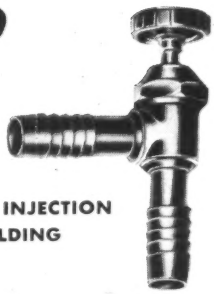
INSERT DRIVE HUB

INSERT BUSHING

THE MAN FROM MUELLER BRASS CO.

can give you sound, unbiased advice on the one best method of making your parts because Mueller Brass Co. is the only fabricator in the country offering all these methods of production. An experienced "Methods Analysis Department" has at its command a complete knowledge of the advantages and limitations of each production process. This unique technical service is your assurance of getting the best product at the best price . . . made the one best way.

FORGINGS



PLASTIC INJECTION MOLDING

MUELLER BRASS CO.

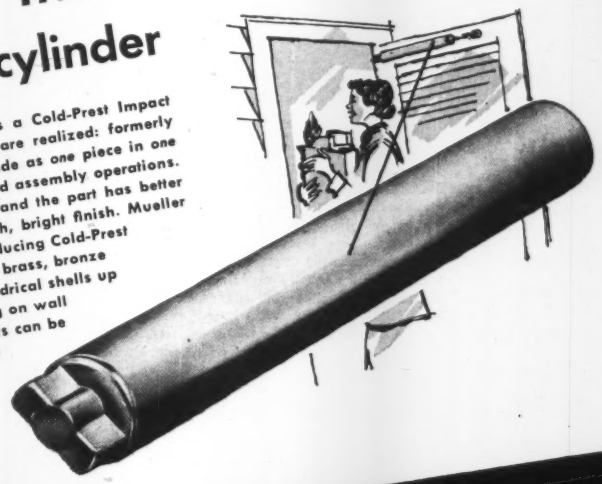
CO. METHODS · ANALYSIS · SERVICE

economical method of producing parts

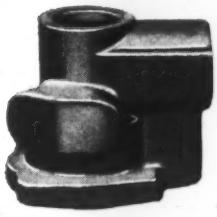
CASE HISTORY 226

COLD-PREST® IMPACT EXTRUSION for door closer cylinder

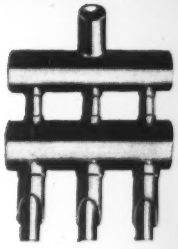
By producing this door closer cylinder as a Cold-Prest Impact Extrusion, several important advantages are realized: formerly made in three pieces, the part is now made as one piece in one operation which eliminates machining and assembly operations. The possibility of leakage is eliminated and the part has better physical properties, as well as a smooth, bright finish. Mueller Brass Co. has complete facilities for producing Cold-Prest impact extrusions of aluminum, copper, brass, bronze and steel. Square, rectangular and cylindrical shells up to 28" in length are possible depending on wall thickness and other design details. Parts can be designed having ribs, flutes, splines or bosses . . . with multiple wall diameters and with various wall sections.



POWDERED METAL PARTS



SAND CASTINGS



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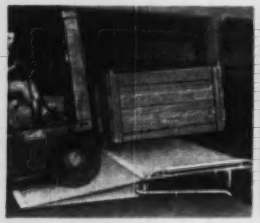
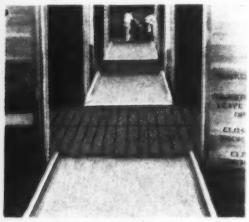


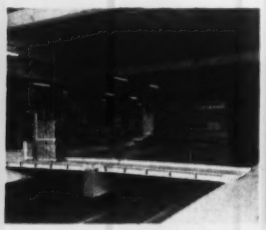
A high bed carrier meeting a low level dock blends into a happy situation when a Magliner Dock Board-and-Ramp combination takes over. The dock board can be used independently for normal loading, or combined with the ramp to provide a longer, safer slope when needed.

Tight turns into a carrier from a narrow dock are difficult and dangerous. But coming or going, Magliner Flared Dock Boards make these sharp, right-angle turns easy—with most of the turn made right on the board! Magliners are rugged and tough . . . stand up under the heaviest loads!

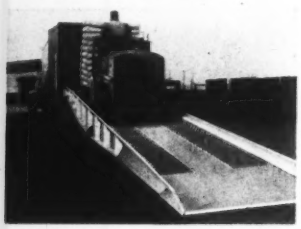


No loading or unloading tie-ups with Magliner Car-to-Car Access Boards. Loads move swiftly, safely, surely from loading dock to farthest outlying railcar. Demurrage costs are reduced . . . delays eliminated! Hard-to-get-at railcars are easily reached with Magliner Car-to-Car Dock Boards on the job!

Magna-Lum T. L. Plates return big dividends from a small investment! Made of high-strength, light metal alloy, these rugged Truck Loading Plates safely handle axle loads up to 4,800 lbs. . . . give fast, efficient loading at minimum cost!



Extra-wide spans, like this one over a railspur, require a dock board of extra long length. When they get this long we call them Magliner Movable Bridges. Quickly installed without altering existing docks or floors, the bridge is easily moved when necessary! Many standard sizes to meet a wide range of requirements.



Ground-level loading was the problem here. Unloading a truck or railcar took 3 men and a power truck . . . required 30 minutes to an hour. Now, one man with a Magliner Mobile Loading Ramp handles the entire job in half the time! Easily moved where and when they're needed, Magliners keep loads moving from ground to carrier smoothly, safely—economically!

Though the problems shown above are individual and different, they have one thing in common. Each was solved by putting a low cost Magliner magnesium dock board, bridge or ramp on the job. Additional on-the-job information is contained in Magline's Bulletin DB-204 "Difficult Dock Problems and How to Solve Them". Send for your copy today!

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MAGLINER MAGNESIUM DOCK BOARDS

the privileged income sanctuaries that the committee is preparing to look into. As an obvious example, consider the tax and interest deductions that homeowners receive, or the exemption of interest on state and local government bonds. The sick pay exclusion is on the committee's list, along with stock options, retirement benefit plans, special treatment of dividends, and the exempt status of savings and loan associations.

The committee intends to look at personal deductions such as medical expenses, contributions, state and local taxes, interest, and exemptions for elderly dependents. Its examination of business expense deductions will include entertainment allowances, depreciation, research and development costs, depletion, and exploration and development costs.

Other panels will spotlight capital gains and losses, the retirement income credit, the treatment of fluctuating income, and failure to report income from interest, dividends, and other sources.

Only the beginning

Even if the committee's study eventually leads to a broad income tax revision bill, the consensus of the experts is that it can't happen within the next couple of years. The upcoming hearings will only scratch the surface. A huge amount of additional work would have to be done before the committee could get down to the complicated task of actually rewriting the individual and corporate income tax laws in a way that would achieve Mills' objective of cutting the rates without losing revenue.

Feeling the Pinch

The United States is getting its first real taste of tight money. Interest rates are the highest they have been since the 1920's, and loans are becoming increasingly hard to find. It's an old story in many European countries where credit stringencies are a familiar occurrence, but it's a new experience here.

The steadily tightening monetary situation has been accompanied by a number of the traditional developments that mark an orthodox market response to rising interest rates and a strong demand for funds. Money has been flooding into the country from Europe to take advantage of the relatively steep yields that can be ob-

tained by buying short-term Government securities. Other investments are becoming more attractive than mortgages, and a long-anticipated tightness has appeared in the mortgage market. Some business concerns that can obtain loans are not borrowing, because they don't think it's sufficiently profitable at current rates.

It hasn't happened yet, but tight money pressures will spark demands for special credit treatment from hard-hit groups. Small business men, home buyers and home builders, local governments, and other vocal groups will make themselves heard after Congress returns in January.

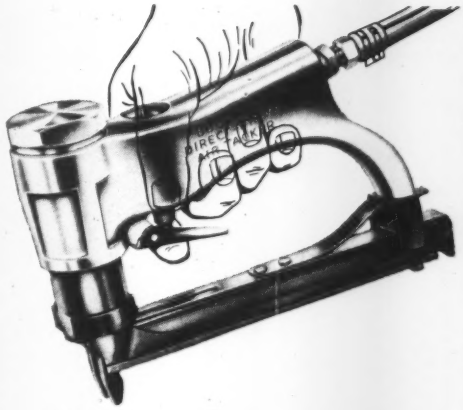
Strike May Stretch the Boom

The shortages brought on by the steel strike may help to lengthen the business boom. One consequence of the prolonged shutdown has been a delay in the delivery of steel that's needed for business expansion programs. That means that part of the expected rise in capital goods spending has been pushed farther into the future and should help to sustain business activity after some of the current growth forces have lost momentum. The disruption of deliveries has been so severe in some lines that plant expansion programs have been set back as much as six months, Government economists declare.

Inflation Brake Weakens

An important change is taking place in world business conditions, and it may significantly influence developments in the United States. A vigorous business recovery now is well underway in Europe. The recession came later in Europe than it did here, and the upturn, of course, has been on a later schedule, too.

The Administration and the Federal Reserve had been counting on the existence of large amounts of new industrial capacity in Europe to keep goods in ample supply, to assure vigorous competition, and thus to discourage inflationary price increases. But climbing demand is rapidly absorbing the idle facilities, and there are mounting pressures on the available supplies of goods. All is not lost, but the United States is not going to get as much anti-inflationary help from abroad as it had hoped it would receive. END



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Shown here are just 4 of the many ways DUO-FAST Automatic Stapling is reducing costs for others. Yes, and you, too, can save with DUO-FAST.

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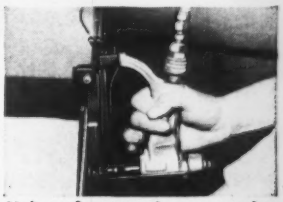

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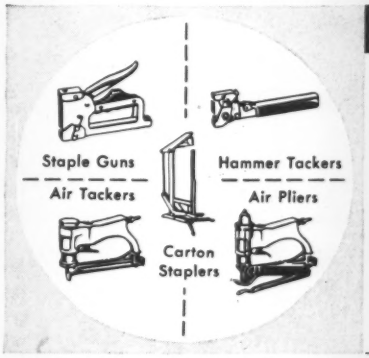

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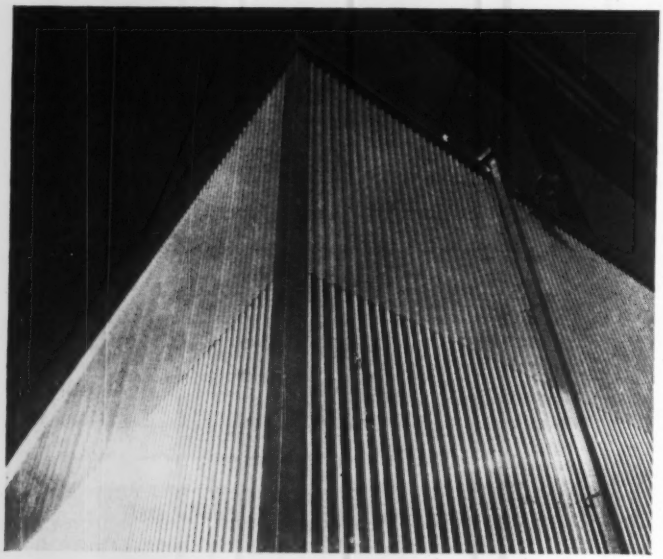

This terminal warehouse put an end to up-keep

This warehouse building is bigger than a football field and it sits about ten paces from the Delaware River in North Philadelphia. Because of atmospheric corrosion, maintenance of such a building is usually an expensive problem.

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The building is strong because Stainless Steel panels are tough and rigid. Wind will not buckle them . . . they lie flat and tight. There's a full inch-and-a-half layer of insulation in each Stainless panel—a better thermal barrier than a 16" wall of other building materials. Because the panels are so thin, there's more space inside the building. Because they are so light, the foundation and structural steel are lighter, and less expensive. And because curtain-wall construction is such a fast way to build, there was a big savings in labor costs.

If you plan to build, be sure to discuss Stainless Steel curtain walls with your architects and engineers. For more information write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

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Snug harbor for shipping

The future of the Port of New York looks good to the people at Chase Manhattan

Counting sleek liners, low-slung tankers, and freighters from far-off ports, a ship now enters or leaves New York Harbor every 20 minutes.

Nearly a million international travelers come and go via ship through the Port each year, and the annual movement of freight averages about 140 million tons.

It takes 200 deep-water piers to handle these ship movements.

It takes a lot of people and equipment, too. Private business firms join hands with public agencies, the Army Engineers and the Coast Guard to keep the Port of New York going full speed.

Developing the Port is primarily the responsibility of two public agencies, the Port of New York Authority, a self-supporting corporate agency of the states of New York and New Jersey, and the New York City Department of Marine and Aviation.

In developing new waterfront facilities on a self-sustaining basis, these two agencies are planning expenditures of more than $580,000,000 along the Port's 650 miles of waterfront.

But more important than these cold figures is the impact modern marine terminals make on a population of 13 million people in the New York-New Jersey area.

A busy, look-ahead seaport provides jobs for men and women, customers for competitive business. And whenever people work and goods move, prosperity follows.

The Chase Manhattan Bank, New York's largest commercial bank, provides money, credit and financial services for the many public agencies and private enterprises that serve the Port of New York.

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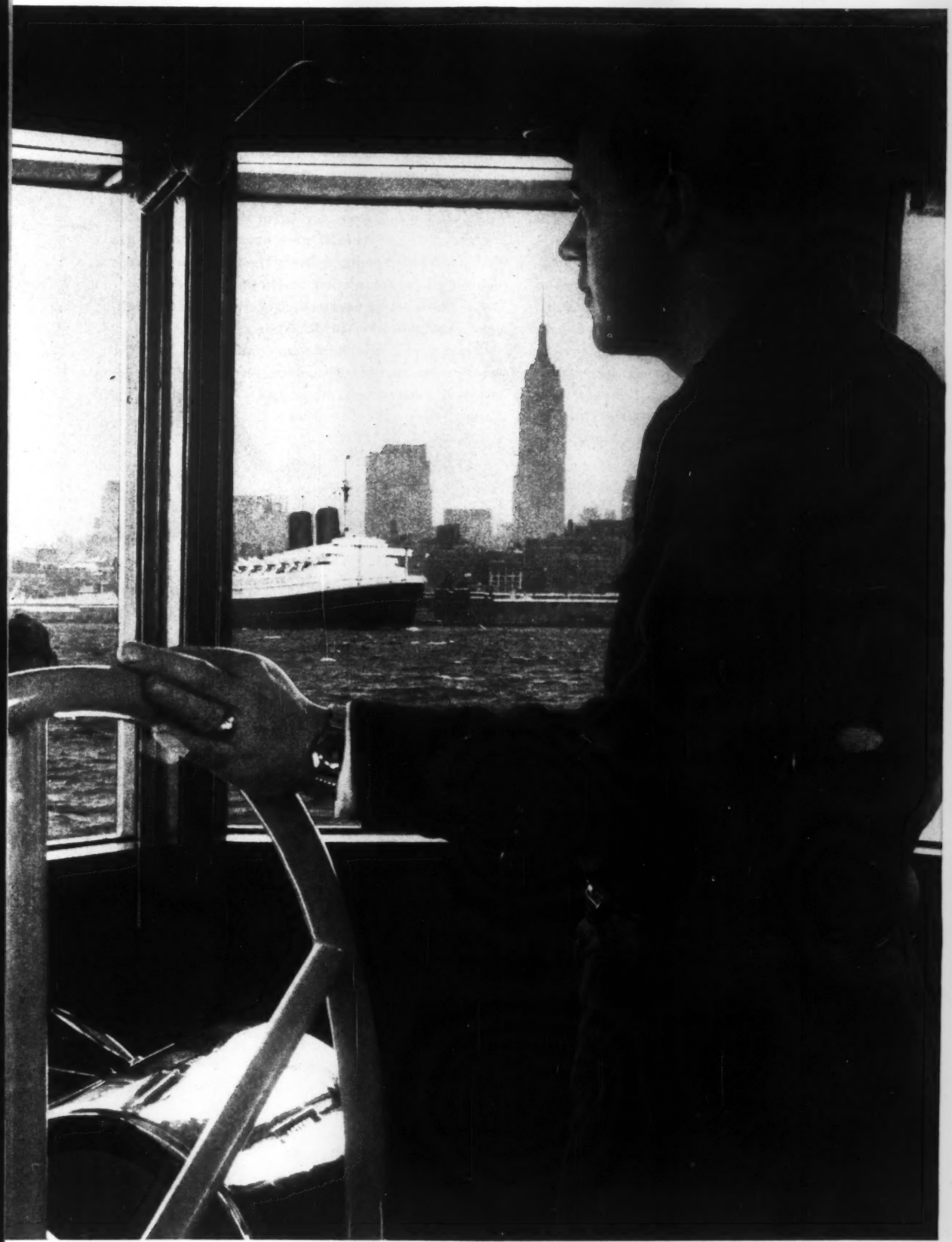

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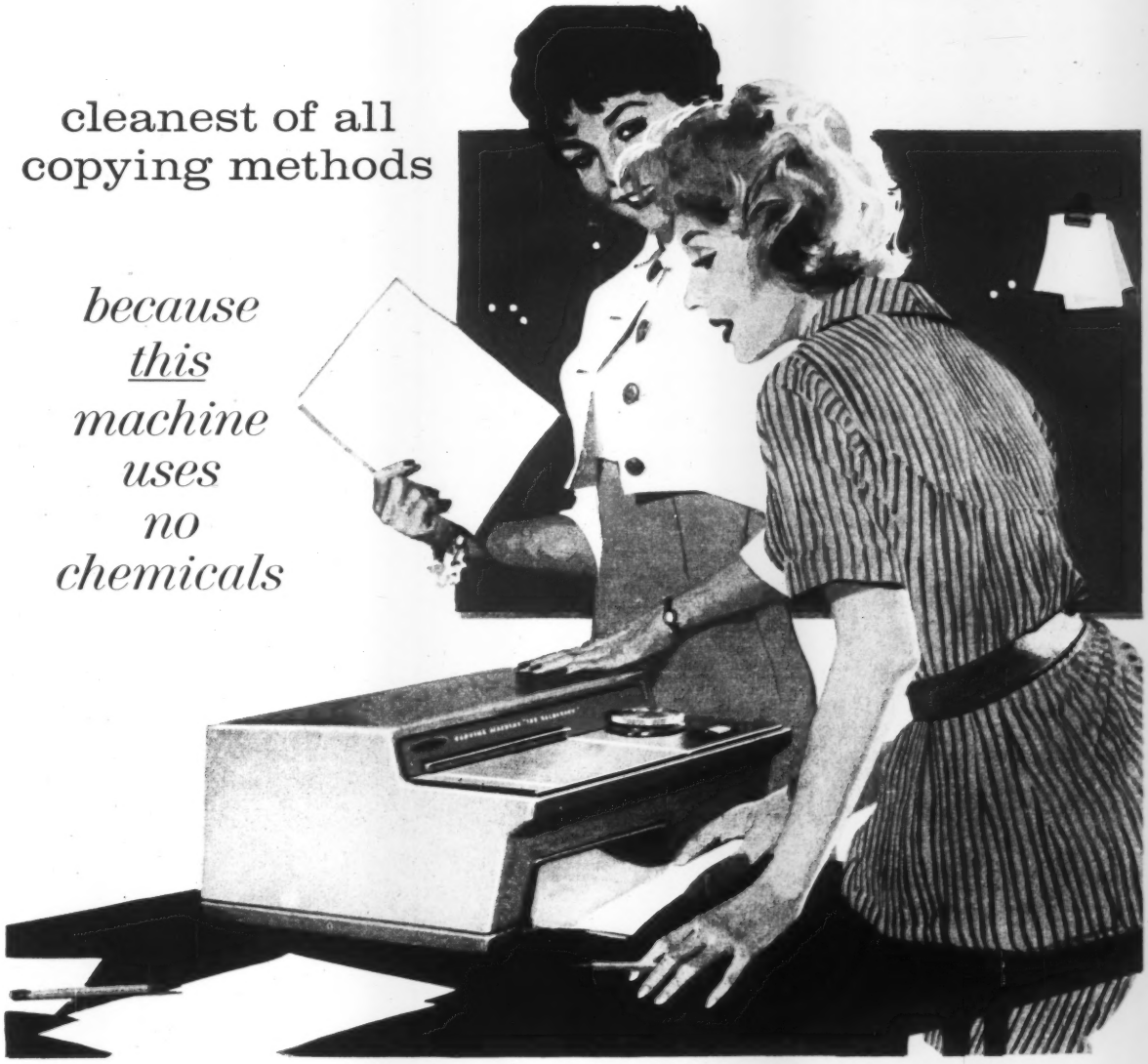

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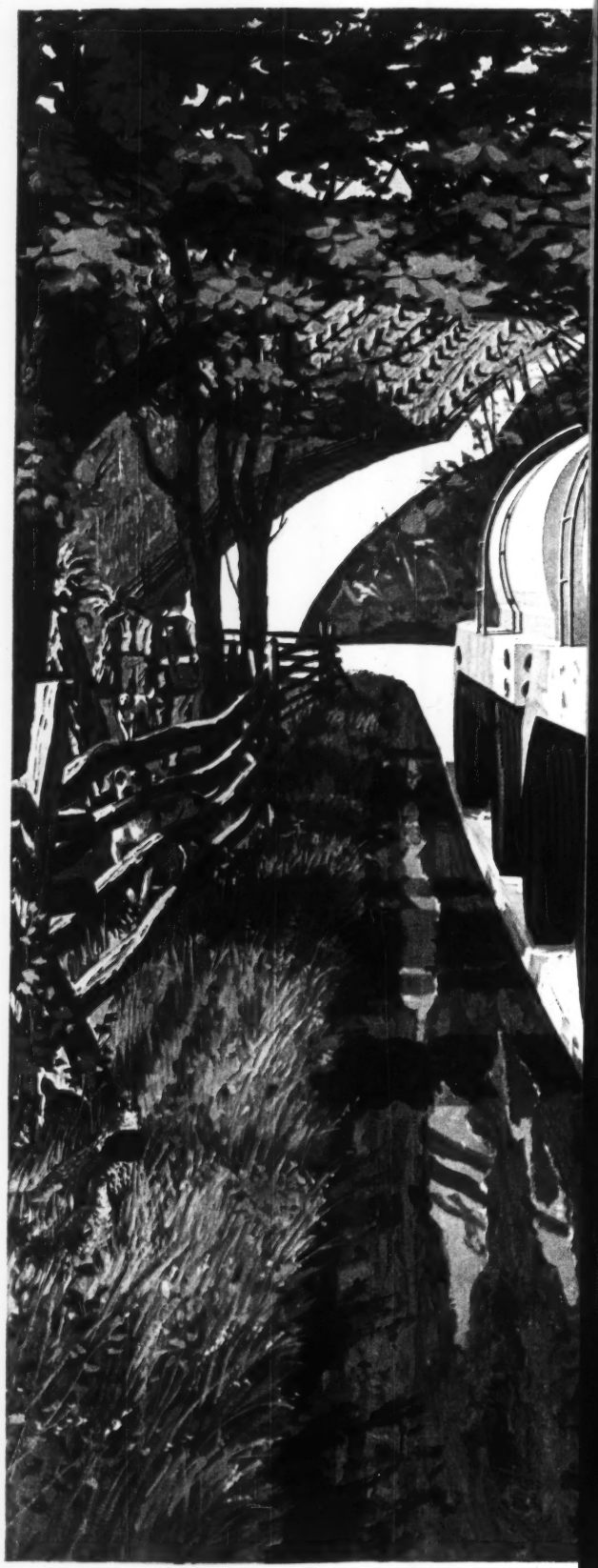

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If you would like to see these excellent industrial locations, Phil Schmidt will be glad to arrange a tour of the area. He will also provide all local data regarding gas, electric power, labor supply, taxation and other vital information.

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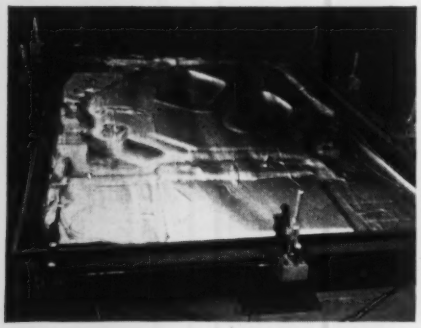
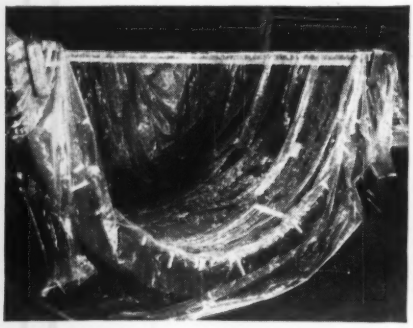
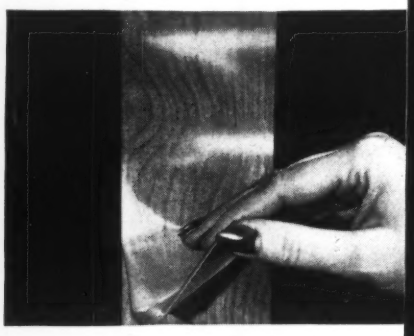


Reynolon MBA/4-3 series is a "super-pli" film that improves adhesive metal bonding. Takes temperatures to 500° F and pressures required to insure satisfactory bonds.



Reynolon PVA/4-6 series is designed for bag molding. It speeds production—is far less costly than matched metal dies. Ideal for molding reinforced plastic parts.



Reynolon Matte-Finish PVA/4-2 is a new polyvinyl alcohol film designed for use in furniture, cabinet and wall panel fabrication and other applications.

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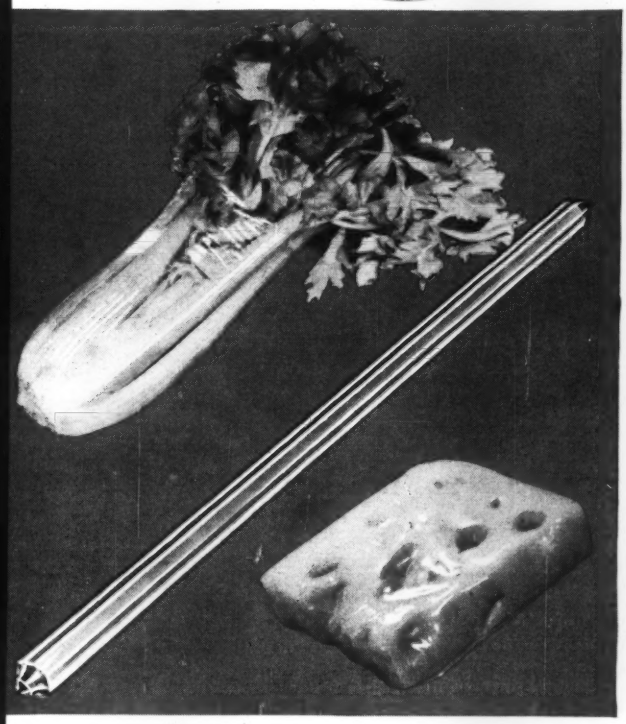

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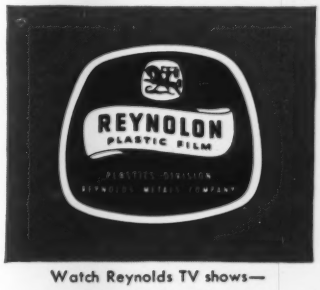

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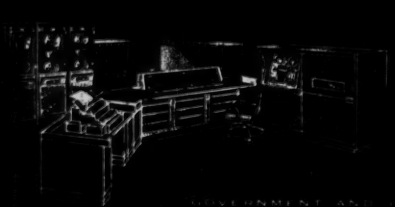

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Does Management Training Pay Off?

Is industry succeeding in its efforts to supply tomorrow's urgent need for trained executive talent? In this new survey, 106 top company presidents turn in their verdict.

THE PRESIDENTS' PANEL

AMERICA'S boom economy has fathered a special boom industry—management development. Since World War II, most leading companies, and many smaller ones, have started training programs designed to hasten the ripening of a new crop of executives.

Few business men will question the basic purpose of this training: New, capable managers are badly needed, both to staff expanding companies and to succeed to top jobs when present top management retires.

But the question is asked insistently: Does formal management development pay off? Does it really succeed in developing managers?

Why some failed

Perhaps the initial hopes were too high. Perhaps too many programs were started on a bandwagon basis, without adequate planning. Perhaps, too, many of the mistakes were just the normal trial and error that can be expected in any widespread experiment involving people. Whatever the reason, some programs have soured, and some companies, too, have soured on management development.

"A waste of time, effort, and money!" exploded the president of one of America's leading corporations, questioned in the latest DUN'S REVIEW survey of Presidents' Panel members. He complained of pretentious programs, of exaggerated claims, and of a mushrooming of executive development programs "to the point where they have become a nuisance."

Is this a typical reaction? Are companies ready to dump their programs for management training, begun so hopefully only a few short years ago?

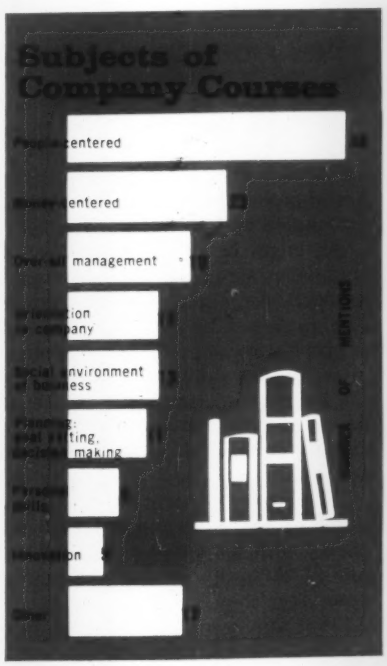
The answer is emphatically *no*.

DUN'S REVIEW has surveyed the presidents of 106 leading U.S. industrial corporations, members of its regular Presidents' Panel. Two-thirds of these men head companies ranking among the 500 largest U.S. industrials. They were asked for facts, findings, and opinions on management development in their companies.

Most of these men are still solidly sold on management development. In fact, generally, they favor expansion of this activity.

Nevertheless, the peddlers of "instant manager" formulas may expect to encounter an increasing amount of sales resistance. Company presidents have become more and more suspicious of facile solutions, canned approaches. They've reaped good results from executive training, but they've also pulled bloopers—and learned from the experience.

Management training as planned for the future appears to be solider, stronger, and closer to the facts of industrial life than in the past.



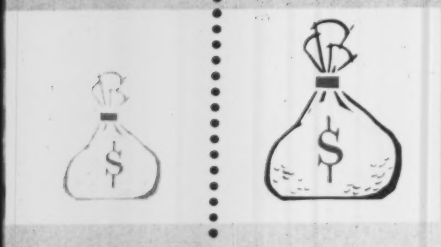
Trends in training

Here are the trends:

- More, not less, money for executive development.
- More on-the-job training. Outside courses will still be used when they fit the plan—but there's a growing inclination to use the company's operations as the principal training grounds for budding managers.
- A shift of responsibility from staff to line. Line managers, especially immediate superiors, will be expected to participate more actively in the development of their subordinates.
- A broader, yet more discriminating, choice of executive trainees. Companies will search farther down the ranks for men with managerial ability, but they will also choose from among the candidates more carefully than before.
- More use of small-group, informal participation activities that seek to develop the manager by involving him in the discussion and solution of actual job problems.
- Fewer lectures and fewer "canned" programs. More careful tailoring of activities to meet the needs of the

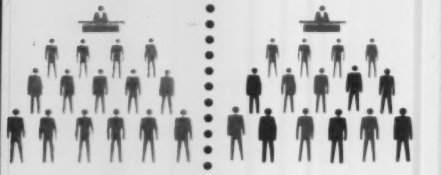
New Trends in Executive Development

Bigger budgets

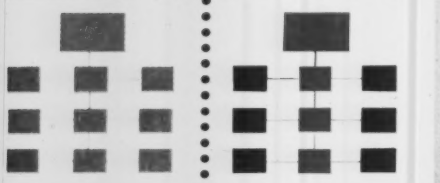


More on-the-job training

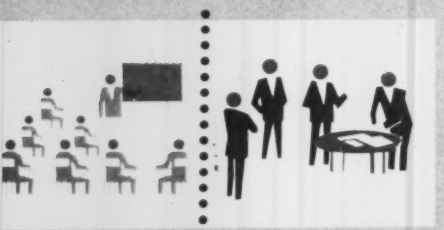
Broader choice of executive trainees



Shift of responsibility from staff to line



More participation-type activities — less classroom training



trainee and of the individual company.

More than seven out of ten Panel companies carry on some sort of planned activity for management development. Among larger companies the trend is even more pronounced: four out of five of the 50 top companies and all ten of the largest (with sales ranging up to $4 billion a year) carry on management development. It's not always called a "formal" program, but a president who calls his plan informal often goes on to describe a wide range of planned activities.

How old are these programs? A few date back twenty to 30 years, but the vast majority—four out of five—have been set up since World War II. Half of the programs are six years old or less, one-third have been started within the past four years.

This flowering of management development was not as sudden as it may appear; the boom had deep roots. For perhaps a quarter-century before World War II, the conviction had been growing among business men that management is a profession which can be taught. The many complex demands on management made by the war and the postwar boom clinched this conviction for many companies.

Their faith in training has been backed by cash. The DUN'S REVIEW Panel presidents report budgets varying from $1,500 to $200,000—with the higher figure more typical than the lower one. Half the companies spend $35,000 a year or more.

Figuring the cost

Many companies haven't figured out their total training expenditures. It's a complex figure to determine, since it includes not only out-of-pocket expenses but also the well-paid time of the trainee. Figuring in this salary cost would probably double the budget figure quoted by many companies.

As might be expected, the biggest companies are, in general, the biggest spenders for executive development. But size is not the only criterion. Rate of growth, age of present management, and company policy all are factors in the budget decision—so it should not be surprising that many comparatively small companies also spend large sums for training.

The money is spent for a wide variety of activities—ranging in cost-per-trainee from a few dollars for staff time and blackboards for a very simple in-company course or project, up to $3,000 to pay tuition and living costs for a middle-ranking executive enrolled at a leading business school.

Most companies play the field. Company courses, university courses, and seminars conducted by universities and other groups are all popular. The offerings of the Harvard Business School, the American Management Association, and the National Industrial Conference Board are mentioned by a fair number of presidents.

Course content is important—even though many trainees say they get most from broad discussion and from contact with other managers. The titles of subjects covered by company courses reveal, as might be expected, a strong emphasis on people. About one-quarter of all courses named by the Presidents' Panel have to do with the motivations and management of personnel—for example, human relations, communications, psychology, group leadership, conference leadership, and personnel administration.

Money management is the second-ranking topic, with many courses on such subjects as finance, accounting, cost control, and profit planning.

Management curriculum

Many courses cover over-all management: management, supervision, administration. Other fields of interest include orientation to the company and the social environment of business. The latter topic covers courses in economics, law, politics, and public relations.

Company courses are offered also on broad aspects of planning: decision making, problem solving, goal setting. Some companies help executives to improve their personal skills in reading and speaking. And courses are given on the art and science of thinking up new ideas: creative thinking, product development, work simplification.

Whatever the subject of training, the question arises: "What good does it do on the job? How well can the trainee put the theory into practice?" Here are some methods mentioned by the Panel for tying theoretical training to on-the-job problems:

- Coordinating the courses with on-the-job training by means of special assignments and projects. Several companies ask the trainees to make practical recommendations based on what they have learned.
- Planning the training on the basis of individual need—which favors immediate application of learning.
- Use of the case method, in which

trainees solve actual problems—often taken from company experience.

- Making the trainee's immediate superior responsible for follow-up, coaching, and practice.
- Selection of training material to reflect job problems. (As one president very practically remarked, "Half our lecturers are company men.")

The results of the training, as reported by the presidents, appear to fulfill the goals. And despite the extreme difficulty of judging results, two out of three men did feel they had something specific to report.

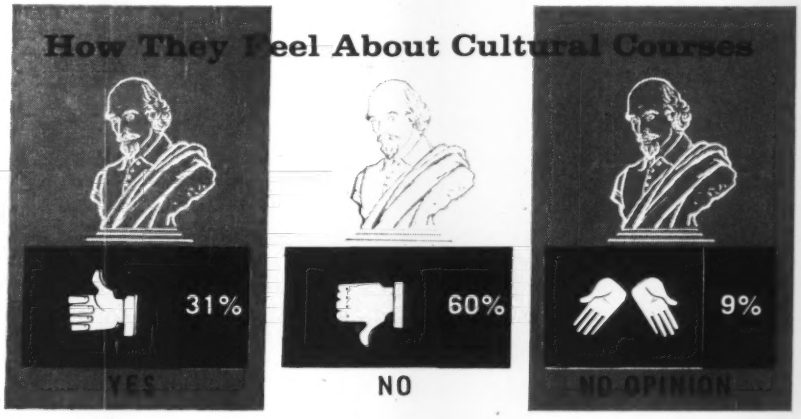
The benefit most widely cited is ability to promote from within. Many presidents say that most jobs in their companies are now filled by promotion, and that there's a reserve of qualified men to fill key jobs. "The men are in demand even before courses have been completed," says one president. Another has had "very few disappointments among those promoted."

The big payoffs

Many presidents report that the program has resulted in improved performance by trainees—often in some specific field such as cost reduction. Higher morale, both among the trainees and throughout the company, is another widely felt benefit. And as a corollary, presidents say that trainees have broadened their outlook and deepened their understanding of the company. Some presidents report executive training has improved performance of the company as a whole.

Through all the comments on training methods runs an emphasis on coaching and counseling by the immediate superior. Some companies will go far to achieve this. One man says: "We believe programs should be tailored to fit the individual, even to the point of modifying organization structure . . . to give him the additional experience he needs. . . . A majority of successful people credit their success to a period of apprenticeship under some outstanding individual. It is our program to attempt to spot natural teachers and supply them with disciples."

Not many companies will fit the organization to the individual to quite this extent. Nevertheless, many see the superior-subordinate relationship as the key to management development.



In the past few years, strictly cultural courses for executive development have received a lot of publicity. Some of these courses are held in resort surroundings; one of them recently arranged a Roman-style graduation, with the participants in wreaths and togas. "If this is executive development," snorted one Panel president, "I want no part of it."

Most of the other presidents are less vehement. Nevertheless, two-thirds of those expressing an opinion vote thumbs down on the strictly cultural courses—for their own companies, at least.

Of the one-third of the presidents who express any approval for the courses, the majority see them as being of limited value in special cases—as, for example, that of a man who is "culturally handicapped" but otherwise eligible for a top spot.

It's only fair to add that company size is a factor in the attitude toward cultural courses. They are viewed more favorably by the presidents of the 50 largest companies—but even here most feel managerial trainees should first master the "three R's."

Most of these industry leaders see some wastes and weaknesses (aside from the high cost of togas) in management training today.

The weakness mentioned by most presidents is, again, the use of "canned" programs and other general material that does not suit company needs and may even be inconsistent with company policy.

Picking the wrong man

Closely linked with this poor selection of courses is poor selection of personnel: either choosing the wrong people, or giving them training that has little relation to their needs. This criticism is undoubtedly valid—and also difficult to meet. A question to the Panel on the methods of selecting trainees brought hardly any concrete, specific answers. Psychological tests, appraisals by superiors, management audits, and other approaches are tried, but few appear to be completely reliable.

Another weakness cited by a number of presidents is management's failure to follow through, to check the results of training, and to give people the right responsibilities. Perhaps lack of participation by top executives is to blame: "The further top management is from the trainees, the greater the waste."

Probably underlying all other problems, even though mentioned by only a few men, is a lack of planning of basic objectives of the program. Too often, one president points out, a fad is adopted "because others are doing it" without either finding out whether the idea is valid or trying to fit it into the company's over-all training plan.

Also coming in for criticism are programs that don't demand enough "hard, extra effort" and the reliance on programs to develop the manager instead of helping him to develop himself.

Summing up the experiences of leading industrialists on the Presidents' Panel, it can be said that these have been both good and bad. They've made some mistakes and learned some lessons, yet they seem to feel overwhelmingly that the over-all results have been worthwhile. The presidents may not be as sure of "the" formula for management development as they were when they started. But they have learned a great deal about developing managers—and they're fast learning how to put their executive training dollars where they'll do the most good. END

A TOP MANAGEMENT INTERVIEW

American Can finds a way to . . . BOOST

Mr. Stolk, we've been hearing much about the responsibilities of management and Government to combat inflation. What specific management practices do you regard as important in fighting inflation today?

I think management's first responsibility is continually to improve methods of operation and increase the efficiency of the company. Secondly, management must persuade everyone in the organization that one can remain competitive only through increased efficiency. Since World War II, I'm afraid it's been too easy for business generally to pay for inefficiency by automatically increasing prices. We haven't had the hard, realistic, competitive situation that preceded World War II and which we were taught to expect. But we're getting it now. I think the last three years have proved very definitely that the companies that will survive in this competitive era are the ones that take off the fat.

Do you feel that it's getting harder to raise prices?

Yes, indeed. The day of the order-taker is over. He was with us for too long following World War II. You remember the fellow who'd walk into a buyer's office and all but say, "You don't want to buy anything today, do you, Mister?" But that day has passed, and now we are faced with real competition, not only within industries but between industries. I think the container industry is a perfect example, where containers from different materials such as metal, glass, paper, and plastics compete with each other.

How does that tie into the two price reductions American Can has made in metal containers since the beginning of the year?

Well, our situation was really unique. An antitrust judgment made effective in 1950 forced us to change completely our method of doing business. We had to abandon many commercial practices which we had considered sound. This resulted in some erosion of our volume. In addition, constantly increasing labor and material costs prompted some of our large customers to become interested in investigating self-manufacture.

Our company studied several alternatives: First, to manufacture our own steel. This quickly proved too expensive. Next, we considered buying into a steel company. We concluded, however, that we should stay with the container business. Our ultimate decision was to try to reduce costs by handling tin plate in coils rather than sheets, thereby doing for ourselves what we had been paying the steel companies a profit to do: namely, inspecting, shearing, sorting, and boxing the tin plate. In doing so, we also gained greater utilization of secondary materials. Equipment and buildings for this program required an expenditure of $32 million. The economies thus realized—along with continuing

In an era of inflation, it's news when a major manufacturer cuts prices, as American Can did some months back. Here, the company's hard-hitting President William C. Stolk tells how bucking the inflationary trend has helped American Can widen its profit margin.

PROFITS THROUGH LOWER PRICES

belt-tightening in all operations—enabled us to completely revise our pricing policies. By protecting our business for the long-term future, the price revisions better served the interests of stockholders and employees. Our customers benefited to the extent of an annual saving in excess of $15 million.

To what extent was your price cutting here a gamble for the company?

Well, of course, every new venture has elements of risk that must be calculated. In this case, we relied on the experience and know-how of our technical and sales people. Our earnings for the first six months are the best proof that our project and price revisions were well calculated. They fooled the experts because most of the investment people didn't believe that we could reduce prices and still make as much money.

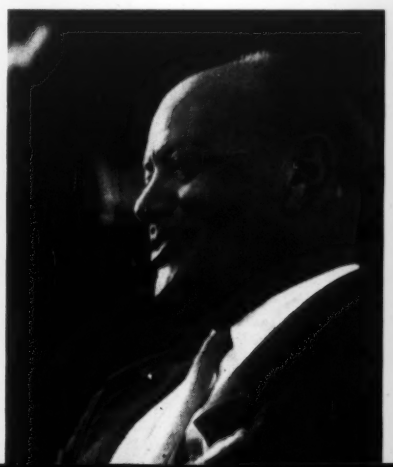
And your reductions were followed by the other can companies. Do you think this would be true in any other industry? If an industry leader cuts its prices, will every company have to follow suit?

Not necessarily in every case. But generally speaking, when the leader of any industry reduces prices, most of the others usually follow suit.

Looking at industry in general, an industry leader very often has the financial resources and the engineering know-how to put in a highly mechanized operation which allows him to reduce his prices. Couldn't this easily force out the smaller company which can't afford this sort of mechanization?

I don't think that's the way it works, because the large company, no matter in what industry, has entirely different problems and costs than a smaller company. In the can industry, for example, the small manufacturer has no research expense to speak of. Nor does he spend money for new equipment development. His main problem is whether he has the money to buy it from somebody that is in the business of making those machines. His business is generally manufacturing cans for products that are already in existence, not pioneering new developments. It's pioneering these new developments that is expensive. Of course, they pay off. You get a head start, as we did when we pioneered the beer can. Unfortunately, it doesn't last forever because it is quickly copied by others who wait until the new development is successful. A can manufacturer who devotes his time to manufacturing containers that are in use doesn't have the expense of research, engineering development, marketing research, advertising, public relations, home economics, and all the rest of it.

Do you feel that unions in general are doing enough to help combat inflation in the economy?



No, I don't. I think union leadership is more interested in what they can get for the union members. A union member gains nothing by an increase in wages if it results in another spiral of price increases and higher cost of living. And that's a story which, I'm afraid, hasn't been told very clearly to the public. Or maybe our standard of living is so high that the average wage earner isn't conscious of what's happening. I can't help but be shocked every time I go into a supermarket and see what happens to the consumer's twenty-dollar bill on a weekend shopping trip. It seems to me the public is absolutely unaware of this inflation problem. And I don't think that educating the public is management's job entirely. I think the union leadership should also be telling those members of theirs what's happening to the dollar.

There's another area, too, where I wonder whether union leaders are as conscious of the facts as they should be. We have bought tin plate in Wales, for example, delivered in Seattle at a lower price than we can buy it in the United States and deliver it to Seattle. We've also bought tin plate from Japan for use in our Pacific Coast areas. I don't think that's anything the unions can laugh off. They may suggest that tariffs are the answer to the problem, but I don't believe that they are.

Do you expect that you will be buying more of your raw materials from overseas in the future?

Price must be the determining factor. If we continue to have spirals of inflation as a result of higher labor rates, we must recognize that American goods will be priced out of the market. Looking to the future, there's no doubt that the material requirements of this country are going to be fantastic. Whether they'll be supplied by American or foreign sources depends a great deal on the realism shown by Government, labor, and management. It's ridiculous for any one of these groups to attempt to put all the responsibility for dealing with this inflation problem on the others.

How are the three of you going to get together?

The only way that I can see is for each of us to recognize and accept our own responsibility and be willing to promote the acceptance of a common objective.

I think both union leadership and Government leadership are going to have to start reading out of the same economics textbooks that business leaders either have to pay attention to or else go broke. It's easy and popular to pretend that wages and fringe benefits, and taxes too, can be stepped up year after year and always be paid for out of that lovely pot of gold called "higher productivity." But the economic facts of life just aren't that way. The manager of a business has to think of both wages and taxes as costs of doing business. He has to think of productivity in terms of the contributions that are being put into the business. His business decisions—especially those involving costs of producing—have to be made with some prospect that every added cost will produce an equivalent value.

What specifically do you think can be done to impress the public with the need for the nation to live within its means?

I think that none of us today—and I include business managers as well as union leaders and Government officials—is doing enough talking and writing and example-setting by our own actions to help everyone see and understand that the more each one of us puts into his own job, the more value there is to share among all who have a valid claim. We haven't been articulate enough about the practical reasons why everyone in our nation ought to concentrate his personal thinking and effort on the put and not on the take. Except as business, labor, and Government are willing to practice as well as preach this economic philosophy, we are going to have further inflation, simply because we will be spending faster than we are producing.

In the case of labor, are you saying that the unions should stop asking for wage increases?

No, but the time has to come when union leadership will make an honest effort to convince the members that they must give added value in return for any economic gains that are negotiated. The continual cry for more of everything without recognition that the added costs must be offset by greater efficiency can only lead to more inflation. Management must be realistic as to what are satisfactory earnings, and Government must find ways to reduce unnecessary costs and so to reduce taxes. These things must come, but they won't happen until every union leader and the leaders of both private and public enterprise accept their own share of the economic responsibility that goes with their leadership. END

The New Look in Corporate Organization

LOOK BEHIND the hundreds of seemingly routine company job changes and promotions announced in the business press each day and you'll find a revolution under way—a revolution in the structure of management. It is going on so quietly that many managers won't fully realize what has happened for another 30 years, but for those who care to search them out, the broad outlines of what's ahead are already visible.

You see them, for instance, in the hundreds of companies that, through a build-up of information-handling staff groups, are busily recentralizing the management controls they had turned over to middle and lower management during just the past ten years (see "Top Management Tightens Controls," DUN'S REVIEW, July 1959).

Control from the top

Less obvious but equally important, new statistical, mathematical, and electronic data processing techniques for handling company information are fast evolving. Between them, these two factors promise to accentuate the present corporate trend toward control from the top—and they also portend a schism of sorts in the management structure of most concerns.

Of course, it's difficult to predict specific changes due to occur in particular companies, but as more companies develop better "information control," it is certain that:

- Many existing departments will gradually atrophy, merge into new ones, or disappear altogether.
- Key staff groups with important "information" functions will be tied more closely to top management.
- Great numbers of middle and lower-level managers will find themselves increasingly cut off from the top-management group and their jobs made more and more repetitive and routine.
- A number of high-level jobs that now carry prestige and power will be relegated to lower management.

The changes will be felt

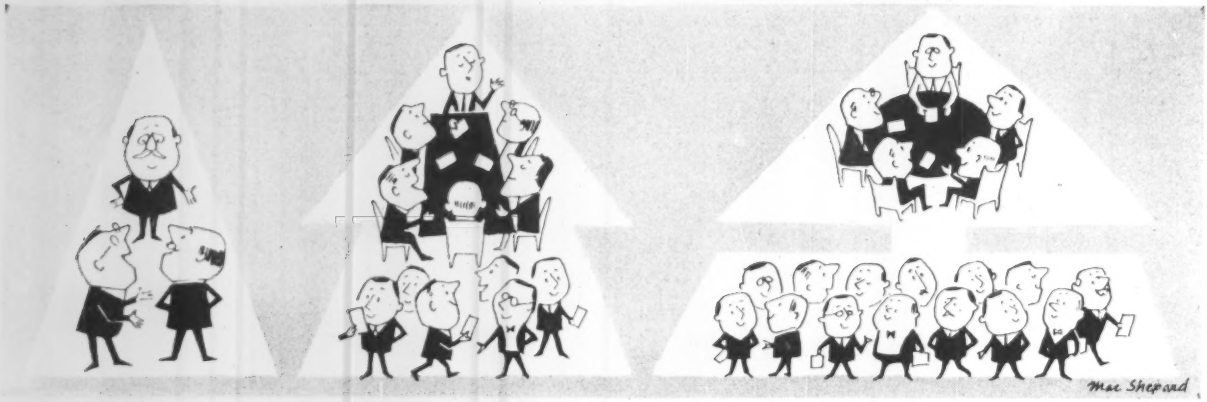
These changes aren't going to happen overnight. Nor will they affect all companies to the same degree. But companies large or small will feel the pressures of the trend.

Some 30 and 40 years ago, as the drawings illustrate, operating control of most companies was exercised by a relatively few top managers. Usually the company president, backed by a skeleton staff of a company secretary, a works manager, and sometimes a sales manager, ran the show.

Today the greater part of the nation's business is done by giant, widely owned concerns, operating nationally through hundreds of managers. In typical large and medium-size concerns, dozens of specialists in personnel relations, public relations, marketing, long-range planning, research and development, and operations research have risen to prominence. Few company presidents feel they can safely do without the knowledge and advice that these new staffers provide, and room is constantly being made for these new groups at or near the top levels of companies.

Another development, and this time on the operating end, is the growing number of international divisions. During the 1940's, few American companies were interested in overseas sales. Today, competitive conditions at home have combined with swelling markets and fat profits abroad to change this. More and more, American companies are becoming interested not only in selling but in manufacturing abroad.

- ▶ *Swelling staff groups and the spread of giant "brains" herald a quiet revolution in corporate structure.*
- ▶ *One foreseeable result: a big squeeze at the middle-management level in tomorrow's recentralized company.*



Yesterday

The management pyramid in typical companies was tight and sharply pointed at the top.

Today

It is much broader and bulges a bit at the top.

Tomorrow

Its broader base of middle managers may be cut off from the elite group at the apex.

Research and development is also rising to the tune of $12 billion a year. Companies that until recently did no research at all now boast multi-million-dollar laboratories. And research chiefs who seldom spoke to their company presidents ten years ago now sit in on top-management meetings. The reasons for this change: corporate realization that technological change and the introduction of new or improved products can make or break a company—plus the fact that as soon as one company plunges into research, its major competitors are forced to follow suit.

The sales function, which once consisted largely of knocking on customers' doors, has also broadened to become the marketing function, including in its domain sales, advertising, market research, pricing studies, new product introduction—and dozens of specialists.

Corporate operations research, formal long-range planning, new product development, and diversification studies groups are becoming standard features in many company headquarters.

Staffers moving up

Three things these groups have in common are that they are extra-departmental, their activities embrace numerous departments; the core of their operations is the gathering and analysis of information; and they tend to have to operate at or near the top levels in order to be effective.

Of course, another thing these groups have in common is that they're helping to change the job of the company president. With all these and many other functions requiring attention from the top, the demands on any one individual become excessive. As a result, in more and more companies there seems to be a sharing of power between the president and the chairman of the board. Although in many instances this is just a case of a strong president moving up to chairman of the board without letting go of the reins, it is happening often enough to convince some industry observers that new organizational needs are at least partly responsible.

A non-profit industrial research organization is currently in the process of making a broad study of this and other corporate evolutions, with special emphasis on cases where:

- The president reports, not directly to the board of directors, but to the board via the chairman.
- The chairman of the board has public relations reporting to him (i.e., he remains chief spokesman for the company) and keeps control of the purse strings via control of the finance committee.
- The chairman of the board is also chairman of the executive committee.

Along with the rise of new corporate groups and functions, these power shifts between company presidents and board chairmen represent some important alterations in the management structure, but the most important changes are yet to come. Still-evolving organizational concepts based on new methods for handling company information processes look very much as if they are going to turn today's familiar management world completely upside down.

Computers, for instance, after much ballyhoo and numerous expensive false starts, are actually starting to take over important chunks of paperwork on a supra-departmental level in lots of concerns. And in doing so, they nibble away at the *raison d'etre* of minor departments and their chiefs.

Computers take hold

The Texas Company boasts a refinery at Port Arthur, Texas, that is the first to be run completely by computer, but other companies are coming along too. Monsanto and B. F. Goodrich Chemical both are working on "Datamatic" chemical plants. Computer producers have developed automatic programing systems with computers that can be given orders in relatively simple English.

Within the next twenty years, researchers expect to produce a "thinking" computer than can be programed to take over many of the routine decisions that comprise the day-to-day work of most lower-level managers. And hundreds of companies are already hard at work making many of these self-same jobs simpler and more amenable to a cut-and-dried, automatic decision process.

What's happening is that company headquarters, which decentralized control over the past decade because they couldn't keep on top of operations, are once more taking over. By supplying middle and lower management levels with an increasingly complete codex of rules and policies to

cover all foreseeable eventualities, companies clearly define which areas a manager should worry about and which he should leave to others. And by supplying managers with extra help from expert staff groups in preparing, scheduling, inventory, marketing, and investment planning, headquarters—in the name of coordination—takes back to itself the main worries of the planning function.

Since they make for greater efficiency, these shifts in control are virtually inevitable, but the changes they effect are subtle at first. For instance, in the manufacturing area where operations research techniques have made the most headway thus far in scheduling production runs and inventory levels, there has been little surface change in organization.

Production chiefs quite naturally welcome the new techniques, because they do away with tough scheduling headaches and permit more effective operation. It is a side issue that foremen and coordinators who used to do the scheduling on a day-to-day basis have that much less responsibility or prestige, now that part of their jobs has been eliminated. Overlooked too is the fact that, although the plant manager still has over-all responsibility for something called "production," a data processing team, by supplying him with cut-and-dried schedules, has made production much more predictable—and therefore less important—compared with other factors under less-effective control.

Just what all this means depends in part on where you sit and how far ahead you want to look. To most middle managers looking ahead a few years, it means little or nothing—their jobs just aren't going to change that much. But for top managers who have to plan ahead and for middle managers with an eye on the top rungs of the corporate ladder, the developments taking place today spell big changes in their future.

Right now, the two experts who are predicting the most drastic changes in the form of future management are Thomas J. Whisler of the University of Chicago and Harold J. Leavitt of the Carnegie Institute of Technology. They hold that just as management over the past three decades has drawn a sharp organizational class line between workers and foremen, so it will draw a line between top and middle management.

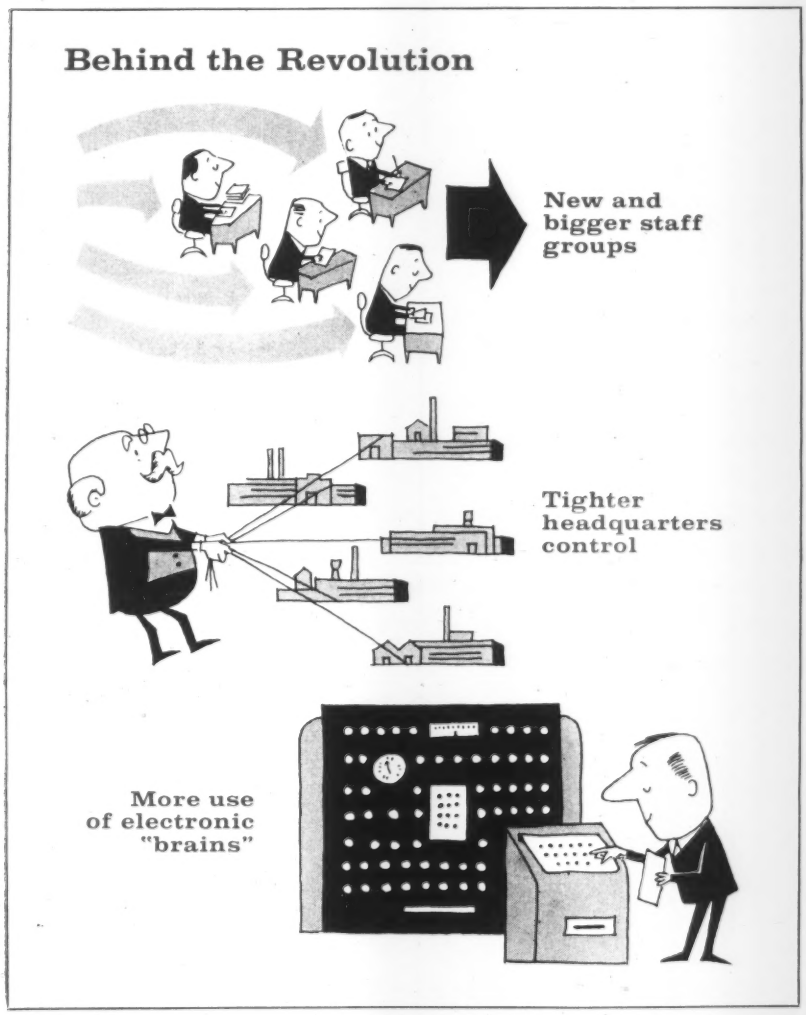
The new elite

In other words, Whisler, Leavitt, and quite a number of operating managers think that a distinct and identifiable top management elite is going to arise out of, and become increasingly segregated from, middle and lower management. Just as it is increasingly rare to find a worker-foreman breaking into the ranks of management, so is it going to become difficult for ambitious lower and middle managers to make the grade into top management, these thinkers say.

Many managers disagree, partly because they think this view is too extreme and partly because few managers like to talk or think in such terms. It is uncomfortable and seems somehow undemocratic — especially in view of the permissive-management vogue of the past few years. However, in part at least, top management separation from middle and lower management is the trend of the future, and it raises important long-term questions. What, for instance, will be the reaction to this new order among ambitious middle managers, who see once wide career paths to the top gradually narrowing? What channels from lower to upper management will still be open? Where will the bulk of the recruits for the top management group come from? What effects will this have on our social system?

It is still hard to give any definite answers. Some company organizations, for all the changes going on around them, aren't going to be altered at all. But for most concerns, both large and small, the next 30 years promise to bring drastic change. It will be up to the individual executive to predict what form this change will take in his own company and to prepare for it today.

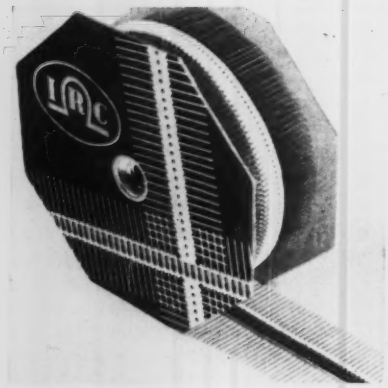
—Edward A. McCreary



The Big Trends in Industrial Packaging

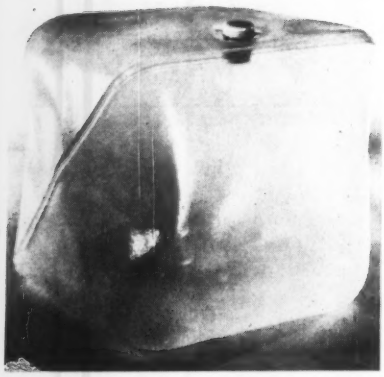
Customer Convenience:

Many industrial products that were never packaged before now come in packages that help the customer improve quality and cut costs. Here a charging truck dumps an exact amount of canned Union Carbide alloying metal into an open hearth. Formerly, helpers shoveled in alloys from an open pile. In addition to cutting labor costs, a chemical analysis is eliminated, because the exact contents are printed on the outside of the container.



Facilitating Automation:

By mounting resistors and other electronic parts on these reels, International Resistor Company packages its products to meld with special automatic assembly equipment. This is an area for package development that has been barely scratched.



More One-Way Disposable Packaging:

This lightweight 15-gallon plastic Cubetainer replaces heavy 13-gallon glass carboys. When the customer empties the Cubetainer, it can be thrown away. The carboy had to be shipped back at considerable cost.

Integration with Materials Handling:

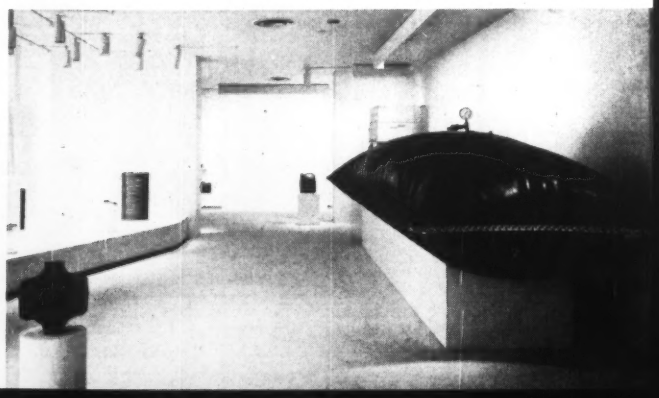
The biggest trend in industrial packaging is designing packages so they can be handled mechanically. These zinc ingots at McGowan, Inc., are made up into a pallet load by means of steel strapping.

Corporate Identity:

All sizes of cartons containing Parker-Kalon fasteners have been given a "family look" to emphasize the corporate image and to help merchandise the product. Replacing the traditional wooden keg, these cartons also illustrate the big trend to paperboard, which is being upgraded in many ways to improve the display value of paperboard packages.

Bigger and Bigger:

Where mechanical handling can be applied, the trend is to bigger and bigger containers. Here's one of the largest. It's a U.S. Rubber Sealdtank for transporting 3,000 gallons of acid, wine, molasses, or anything else than can be pumped. It can be folded up on the return trip to make room for other paying cargo. Here it is shown at New York's Museum of Modern Art packaging show.



Many of the big trends in consumer packaging described last month in Part I of this two-part feature are reflected today in the industrial packaging field. Here are the latest developments in this key cost-cutting area, as revealed by a new survey of 1,000 big manufacturers, plus reports from leading packaging engineers and laboratories.

New Ways of Packaging for Profit

Part II: INDUSTRIAL PACKAGING

BECAUSE packaging doesn't add to the intrinsic value of the product, it's an important area for cost reduction in the minds of many manufacturing executives. This strong belief is borne out by an exclusive DUN'S REVIEW survey of leading manufacturers, package producers, and designers. Most of the innovations in industrial packaging reported are aimed at cost reduction—and with good reason. About $4 billion of the $16.5 billion industry spends each year on packaging goes around industrial products.

Although industrial packaging may not enhance the product's intrinsic worth, it certainly has other positive values to both the producer and the consumer. Industrial goods manufacturers, like consumer goods producers, are using the package today as a merchandising tool and as a means of projecting the corporate image. But far and away the biggest trend in the industrial packaging is its integration with materials handling.

Large containers that can be handled mechanically are replacing smaller packages that are usually moved about by manpower. Generally, this means mounting the container or containers on a pallet. However, the development of specialized industrial trucks and materials handling equipment can eliminate the space-consuming pallet in many cases (see "Pallets Are Passé," DUN'S REVIEW, June 1959, page 122.)

Just as the individual consumer is buying larger sizes to save time and money, companies are buying in large bulk containers such as Tote-Bins, 500-gallon plastic drums, and palletized boxes with one-ton capacity. The ultimate, of course, is bulk shipment in tank trucks, tank cars, ships, barges, and pipe lines. But only a few products going to volume customers can dispense with the package.

Small and Disposable

Paralleling the growth of multi-packs in consumer goods, many industrial suppliers are also packing parts and liquids individually or in smaller quantities for added protection or customer convenience.

The overwhelming trend in consumer goods packaging is towards disposable containers—and this trend is gathering steam in industrial distribution, too, according to the survey.

The development of plastic containers has practically killed off the old returnable, heavy glass 13-gallon carboy for corrosive chemicals. Some of the new plastic drums, especially in the 200 and 500-gallon sizes, are returnable, but the trend is toward one-way trips for these new liquid carriers. Similarly, General Cable Company Corp., New York, is going from returnable reels to no-deposit disposable reels.

Just as designers of consumer packaging are trying hard to make their packages function well in the home, designers of industrial packaging are trying to make their packages perform well in the plant. The new 500-gallon plastic drum and the Tote-Bin also function as a mixing or settling tank. The Palletainer can be used throughout the plant to move parts from one machine to another.

The boilable plastic bag for food is being imitated, in effect, by a number of manufacturers of industrial products, according to the survey.

- The Ashland (Ky.) Oil & Refining Company, for example, used to supply traction gear grease for diesel locomotives in steel drums. The grease

is so thick it can be applied only with a paddle after it is loosened by heating. Now Ashland packages the grease in polyethylene bags which are thrown unopened into the gear box. (Chewed-up polyethylene is harmless to gears.)

Although industrial suppliers need not make their packages more attractive to increase "impulse" buying, more colorful containers can affect sales. For example, one manufacturer who ships his cleaning preparations in steel drums found that the drums are generally stored in poorly lighted rooms. When the background color on the drums was changed to a fluorescent orange which is easier to see in a dim light, sales jumped.

Other manufacturers are adding over-all color to simplify their cus-

Before-and-After Cost-Cutting Success Story

The spare-parts packaging problem at Republic Aviation Corp. is similar to that faced by many manufacturers of heavy equipment. Rarely is more than one item of a given kind shipped to any one location at the same time.

Before Republic reorganized its shipping area, much time was consumed in bringing parts to shipping containers scattered about the area.

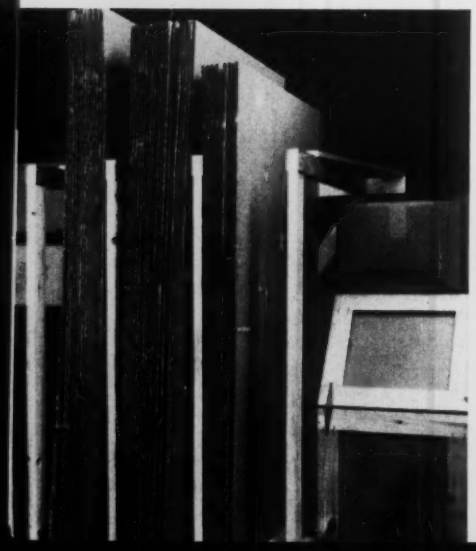
Over a period of time, the following changes have been made:

- A straight-line mechanized flow system was installed.
- 3,000 square feet of storage space for assorted corrugated containers was saved by hiring a service that provides corrugated boxes of any shape or size on 24 hours notice.
- Containers are quickly made up by pneumatic stapling of modular panels of pre-scored, corrugated Tri-Wall.
- Automatic machines are increasing packaging of small parts from 50 units per hour to 30 units per minute.
- Corrugated is used in place of wood for savings of 60 per cent in over-all costs.

To improve packaging operations further, Republic is continuing to experiment with Acme Steel Company's "Aim" system and with plastics for dunnage.

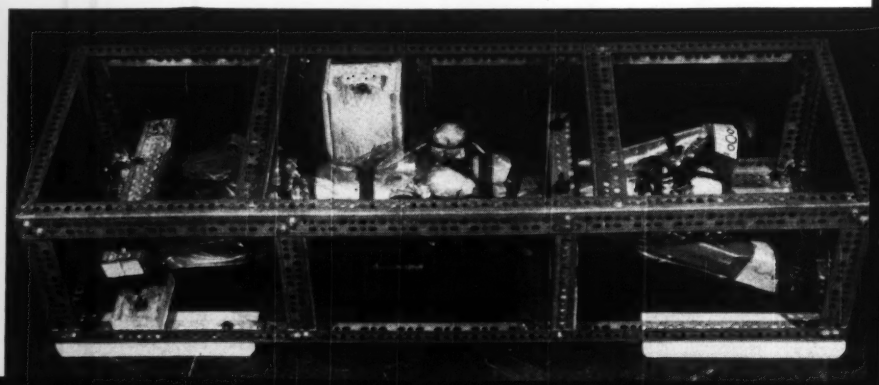
BEFORE: *This was the spare-parts shipping area at Republic Aviation Corp. before reorganization. Containers were scattered helter-skelter all over the floor.*

AFTER: *A straight-line mechanized flow system of conveyors now moves shipping containers rapidly through the area. This saves time previously wasted in bringing parts to the container.*



HIGH SCORING: *This is the compact stock of pre-scored Tri-Wall corrugated, cut in modular sizes, from which a great variety of box sizes to fit all Republic's spare parts can be constructed by pneumatic stapling.*

COST-CUTTER: *Republic Aviation is testing the Acme Steel Company's "Aim" system of shipping products in screwed-together open frames. The metal frames are cut to length with a simple hand tool. The part is protected by a plastic film shroud.*



tomers' toolroom problems. For example, one company's rock bits come in different colored containers so that toolroom attendants can quickly pick out the required size.

Despite the assignment of all sorts of collateral duties to industrial packaging, such as reduction of pilferage and projection of the corporate image, about 23 per cent of the big manufacturers responding to the DUN'S REVIEW survey have cut costs of packaging in relation to other costs. By far the most important method of cost-cutting is switching materials—for example, substituting paper for wood.

The survey reconfirms what nearly everybody knows: corrugated paperboard is practically pushing nailed wood containers out of packaging, making it the most widely used packaging material. As one packaging expert put it: "When you *can* change from wood to corrugated, you almost always save money in materials and labor. This doesn't take into account bonus savings due to reduced weight and product damage."

However, wood is still dominant in export packaging, despite the fact that a number of companies, including Gould-National Batteries, Inc., St. Paul, Minn., and Underwood, Inc., New York, have been able to convert to corrugated for exports.

But the boom in corrugated has produced some problems. No one has yet come up with a way to "engineer" corrugated containers. This means they have to be developed by empirical, cut-and-try methods. When this technical deficiency is coupled with the constant need for allowing for sub-standard or moisture-weakened fiberboard, it means that most corrugated containers are heavier than they would ideally have to be.

Progress is being made, however, in solving these problems. Some giant corporations, which purchase tens of millions of dollars worth of corrugated board annually, are already bringing pressure on suppliers to establish real technical standards for corrugated similar to those for other engineering materials. In the process, packaging engineers will learn to design even lighter corrugated containers for specific products.

In addition to switching from wood to paperboard, the survey shows manufacturers are also taking the following steps to cut material costs and reduce shipping weight.

- Specifying lighter gages in steel drums, pails, and cans
- Substituting plastic or fiberboard drums for wooden or steel barrels
- Specifying simpler closures

Management Checklist on Redesign of an Industrial Package

Why redesign?

1. The product is getting banged up.
2. It's costing too much to pack the product, assemble the container, and ship it.
3. The container needs to be integrated with others in the product line.

What are the major considerations?

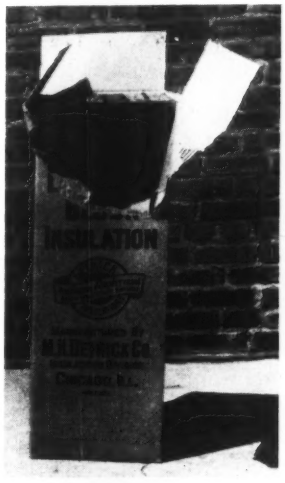
1. Product manufacturer's needs:
   a. Adequate protection
   b. Easy assembly, packing, closure
   c. Low total cost
2. Customer's needs:
   a. Protection of product
   b. Easy handling
   c. Easy and secure stacking
   d. Easy opening

What are the tests of a good design?

1. Does it protect the product?
2. Does it stack easily?
3. Will it fit standard handling equipment?
4. Is it the right size for easy carloading?

This checklist was prepared with the assistance of K. F. Vasiliou, director, Packaging Research Laboratory, Rockaway, N.J.

New Package Boosts Sales 50 Per Cent



When Harry Lewis, manager of the Insulation Division, M. H. Detrick Company, saw a stock boy in a supermarket zip-opening a carton by tear-tape, he realized this was the answer to his customers' complaints. The old end-unloading carton Detrick used for packaging refractory blocks (left) was difficult to open and unload. Workers sometimes cut their hands on exposed staples. Since the new zip-open, easy unloading carton (right) was introduced sixteen months ago, sales have gone up 50 per cent. Although the package was made more attractive and promotional efforts also were increased, officials of the Chicago company give most of the credit for increased sales to the new fast-opening, easy handling carton. The carton is manufactured by Evert Container Corp., Milwaukee, Wis.

- Substituting waterproof, stretchable paper for canvas tarps
- Using fewer colors on packaging (this runs counter to the general trend toward more color)
- Standardizing on fewer containers. For example, the National Starch Company has cut its inventory of paper bags by 60 per cent by purchasing a bag-marking machine
- Gaining volume discounts by either planning ahead, buying from few suppliers, or unifying purchases for many different plants at one central location
- Eliminating packaging altogether and shipping in padded moving vans or on special fixtures
- Specifying paper or plastic bags instead of boxes where possible
- Using pressure-sensitive, fiber glass-reinforced tape instead of steel strapping to make up pallet loads. This move is saving thousands of dollars annually at Sperry & Hutchinson, Inc., Chicago, according to Mrs. Elaine Pitts, packaging engineer.

Many companies are letting outside specialists solve their packaging problems. It has long been the practice to turn over products and equipment destined for export or the armed forces to companies that specialize in packaging them. Many consumer products are also packaged by companies that do nothing else. But now some manufacturers are finding it pays to turn over packaging of industrial products to such a service.

Since many of these packaging serv-

The Big Trends in Materials for

The biggest trend in packaging materials for both consumer and industrial goods is the phenomenal increase in the use of paper and plastics. While paper consumption has more than doubled in the past decade and some plastics have increased their market in packaging many times over, metal (mostly cans) has gone up an average of only 5 per cent a year, and glass bottle consumption has barely stayed ahead of population gains.

Another big trend is toward upgrading packaging materials. Corrugated board, today's principal packaging material, is being improved in a number of ways.

Improvements in corrugated board

- Several manufacturers are experimenting with printing merchandising messages on the outer liner *before* it is glued on the corrugated core. This development is significant because extensive printing on finished corrugated severely weakens it—and yet, companies increasingly are aware of the need to dress up their corrugated containers for merchandising displays. At present, the usual way to compensate for extensive printing is to use heavier, more expensive board. However, Charles J. Zusi, a packaging consultant associated with Container Laboratories, Inc., Chicago, claims that careful, experienced printers know how to avoid damaging corrugated in the printing process.
- Four-color printing on corrugated has been introduced this year by Progress Lithographing Company, Cincinnati, under the trade name of "Pre-Lith" (see DUN'S REVIEW, October 1959, page 70). Although the width of the printing machine limits the size of cartons that can be dressed up by this new process, it can be applied to cartons for all but the major appliances. Previously, the only way to print four colors on corrugated was to run the board through a two-color press twice. The new process also has the advantage of printing the liner separately, which avoids damage to the corrugated.
- E. I. du Pont de Nemours & Company has applied a waterproof Mylar coating to corrugated that greatly extends the life of returnable corrugated cases.
- No-skid coatings on corrugated also help cut down on shipping damage by preventing containers from shifting.
- A number of companies are studying a new type of fiberboard in which foam plastic takes the place of the corrugated paper core. Still too costly for most applications, it could cut costs where the insulating quality of the foam protects some temperature-sensitive food or medicinal product.
- New plastic coatings for cellophane are making it more competitive with polyethylene, which has been making big inroads into cellophane's market. Newer films, such as polypropylene, could, however, cut into both polyethylene and cellophane. The Scott Paper Company reports that polypropylene film looks very promising for many of its packaging needs. However, new Federal laws may slow the extension of new plastics into food packaging until their absolute safety is determined.
- Polyethylene is also finding important new markets in heavy-duty bags and as a coating on milk containers. Although the plastic coating is more expensive than the traditional wax coating, the reduction in customer-irritating "leakers" more than makes up for the slight added cost. Plastic-coated paper also has a bright future as a possible container for motor oil, salad oil, and fruit juices. These new containers will also have the additional cost-cutting advantage of flat shipping to the bottler. The Minute Maid Company is very much interested in foil-lined paper containers as a substitute for cans.

Packaging with aluminum

This latter development could cut the ground from under one of the other advances in packaging—aluminum cans. The aluminum can has been making gradual inroads into the market for tinplate cans. Progress has been slow because aluminum is more expensive than tinplate and because softer aluminum cans can't run through canning machinery as fast. However, there is less chance of corrosion with aluminum. In Europe, half of all aerosol cans are made of aluminum.

Recently the Gunther Brewing Company, Baltimore, in-

ices are adjuncts of warehouses, they can also handle an inventory of spare parts. For example, many companies that hire the services of Michigan Industrial Packaging, Grand Rapids, instruct suppliers to send components destined to be treated as spare parts directly to the packaging service. This avoids a lot of extra handling.

Labor trouble, however, can result if a company turns over all packaging to outsiders. Workers often resent outside packagers as much as they do outside contract maintenance people.

On the other hand, outside packaging services can provide a sort of cushion against bad times. Whenever sales drop, the outside service can be cancelled and production workers shifted temporarily to packaging duties. In this way, companies can hold on to their skilled help in recession periods or slack seasons.

In these days of shrinking profit margins, industrial packaging is a worthwhile area in which to seek cost cuts. But the real opportunities in industrial packaging are new forms that increase customer convenience, integrate with mechanical handling systems, or facilitate mechanization of production. And all of these benefits can be passed on to the ultimate customer in the form of lower costs.

MELVIN MANDELL

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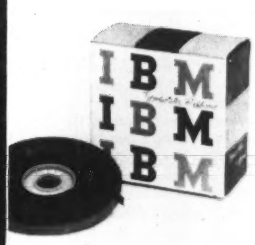
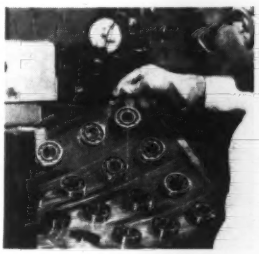
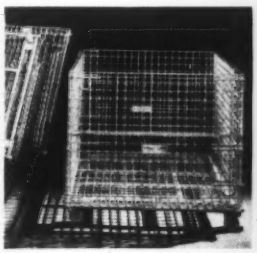


Consumer and Industrial Packaging

troduced a 7-ounce aluminum beer can supplied by both American Can Company and Kaiser Aluminum & Chemical Corp. The new can is significant because it doesn't cost any more and can be handled mechanically just as fast as a tinplate can of the same size.

Aluminum has become a major packaging material in the form of foil. Four-color printing on foil overwraps for packages is now quite common.

Paper and fiberboard are being upgraded in many ways to improve their display value. Demand for whiter bleached fiberboard is skyrocketing. Many printers are experimenting with fluorescent whiteners and inks for the paper outcover that goes on many packaged products.

One of the big problems in selling packaged fresh meat in the nation's 30,000 supermarkets is the "blackening" of the underside of the cut after a few days, even under refrigeration. A packaging manufacturer has now developed a chemical that prevents unsightly blackening when used to impregnate the paper meat tray.

Years ago, products were protected inside shipping containers by mounds of excelsior. Today, bracing is accomplished by die-cut corrugated structures, molded pulp or urethane foam corners, rubberized horsehair and rubber shock pads.

The trend to plastic bottles is so strong that some packaging experts fear that suppliers will be overwhelmed.

Better glass bottles

To meet heavy competition from plastic bottles and pouches, and cans, the glass companies are developing new lighter disposable bottles with short necks. Some are even coating the outside with protective plastic.

For very large pieces of equipment that can't be packed in corrugated or wirebound boxes, the trend is from completely sealed wood boxes to open-style wirebound or nailed crates in which the equipment is protected by a shroud of waterproof paper or polyethylene film.

One packaging laboratory is experimenting with plastic "logs" molded into special shapes to replace wood bracing for large equipment such as turbines.

"Composite" materials make news

Some of the hottest developments in materials are in "composites"—packages made up of combinations of materials. For example, the heavy glass 13-gallon carboy, usually shipped in a thick, nailed-wood crate has been obsoleted by the 15-gallon plastic Cubetainer (see page 50) inside a wooden, wirebound crate, lined with single-face corrugated to reduce abrasion of the plastic. In one design, some of the slots of the wirebound box are made of "kraveneer," a thin section of wood strengthened by outer lamination of kraft paper.

One packaging manufacturer has also developed a mass-production method for vacuum-plating paper with extremely thin layers of aluminum. This composite could be a strong competitor for foil, plastic-coated paper, and the conventional combination of thin aluminum foil glued to paper.

Automation in packaging

New developments in expanded and foamed plastics have a big future in the eventual automation of packaging operations. By installing plastic expanding or foaming equipment at the end of a production line, products could be automatically sealed in tough plastic cocoons. An automatic stencil could imprint all pertinent information on the strong outside of the plastic. Although nearly all mass-production packaging operations are highly mechanized, they still generally require a few operators for some difficult-to-mechanize step.

Right now, expandable plastics, which require heat or hot steam to turn the loose tiny beads into a light, homogeneous mass, are the leaders in this packaging automation bid, with costlier foams a second choice. However, plastics which can be chemically foamed around the package come in a greater flexibility and hardness range than mechanically expandable plastics.

All of this automation involving plastics, however, is so far ahead that it's difficult to see when plastics will emerge as a real competitor for corrugated board.

14 Important Ratios in 24 Wholesale Lines

The ability of industry to distribute and market the results of its research and the output of its laboratories rests squarely on the shoulders of its wholesalers and retailers. Those shoulders have not exactly been sagging—new records in wholesale and retail sales have been set virtually from year to year. Yet, when their work is done, many concerns whose function it is to move goods have reason to look askance at the fruits of their labors.

As was pointed out in the October issue of DUN'S REVIEW, the Fourteen Important Ratios on retailers for the year 1958 reflected unfavorable relationships in most of the lines of business studied, in terms of net profits on sales and net profits on tangible net worth. The figures now available on wholesalers reveal even greater cause for concern.

Profit ratios drop

The median ratio of net profit on sales fell below 1 per cent in thirteen of the 24 wholesale trades, ranged from 1 to 2 per cent in ten other wholesale lines, and exceeded 2 per cent in only one—namely, wholesale baked goods.

The alternative to an abnormally low rate of profit on sales is return on capital. Here again, the showing made among the wholesale lines studied ranged from poor to dismal. Ordinarily, a business should earn at least 10 per cent on its tangible net worth. In only one instance—baked goods—did the median profits to worth ratio exceed this figure. In sixteen of the 24 lines, the median relationship of net profits on tangible net worth fell below 6 per cent, and in nine lines, the median was less than 5 per cent.

To argue that these results were caused by the recession of 1958 begs the question. In most lines, the 1958 profit medians do not vary to any important degree from the averages for the past five years. The fact is that the most recent figures reflect not only a trend but a real situation.

The situation is simply that from a profit-making viewpoint, wholesalers are showing signs of distress. One of the roots of their difficulty is increasingly feverish competition. Another of their problems is a growing tendency among their larger retail customers to bypass and criss-cross traditional lines of supply by seeking to buy direct from manufacturers. In some industries, manufacturers refuse to sell direct, but in others they sell indiscriminately.

These are not the only problems of wholesalers. There are questions of mechanization of office procedures and methods of delivery, the management of salesmen and sales incentives, the coverage of territories and the rising costs thereof. There are also, here and there, burdensome questions of debt management, although most of the debt ratios in wholesaling for the year 1958 reflect a generally healthy situation.

Cause for concern

As always, there are the exceptional concerns in the upper quartiles which have shown themselves capable of mastering new conditions and whose results prove that their managements are outstanding. By and large, however, the profit margins in most of the lines covered under the Fourteen Important Ratios are disturbingly low. They reflect a situation which industry should ponder carefully. What, for instance, is it worth to perform the full function of a wholesaler—sales, warehousing, credit and, very importantly, promotion and development?

END

Definitions of Terms

The Ratios—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below $50,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles; for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median.

Collection Period—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any), less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

Current Assets—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities when not in excess of market, state and municipal bonds not in excess of market, and United States Government securities.

Current Debt—Total of all liabilities due within one year from statement date, including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

Fixed Assets—The sum of the cost value of land and the depreciated book values of buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.

Funded Debt—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

Inventory—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

Net Profits—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts; after miscellaneous reserves and adjustments; but before dividends or withdrawals.

Net Sales—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

Net Sales to Inventory—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover, which would be determined by reducing the annual net sales to the cost of goods sold and then dividing the resulting figure by the statement inventory.

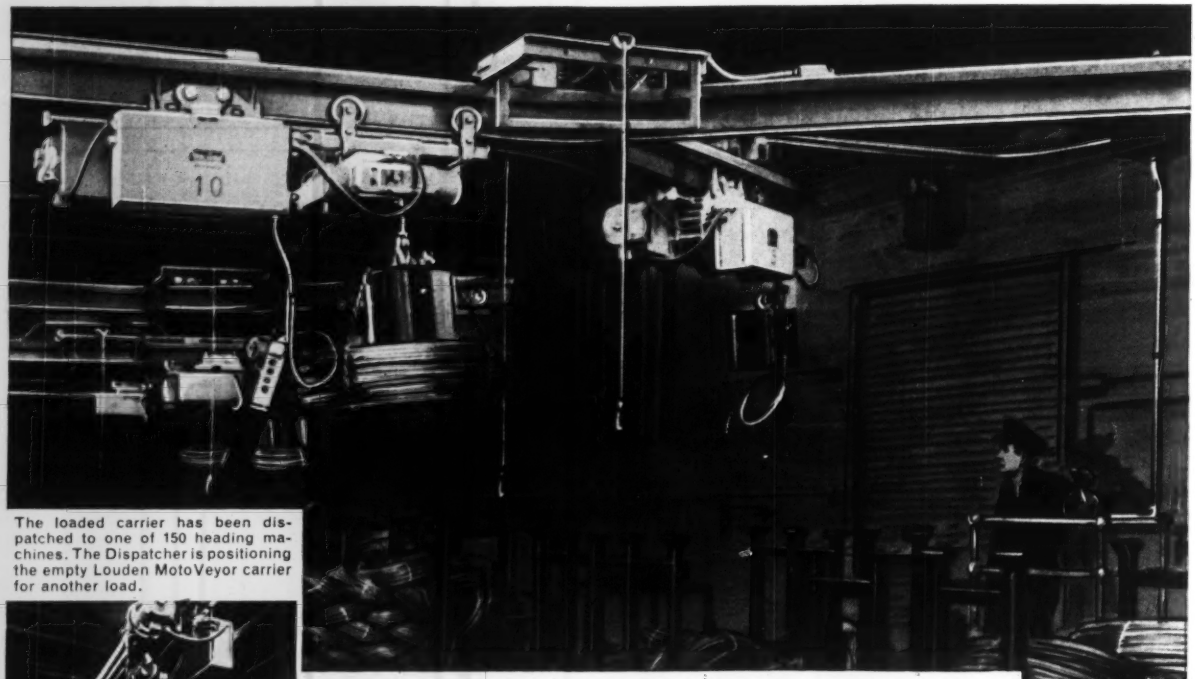
Net Working Capital—The excess of the current assets over the current debt.

Tangible Net Worth—The sum of all outstanding preferred or preference stocks (if any) and outstanding common stocks, surplus, and undivided profits, less any intangible items in the assets, such as goodwill, trademarks, patents, copyrights, leaseholds, mailing list, treasury stock, organization expenses, and underwriting discounts and expenses.

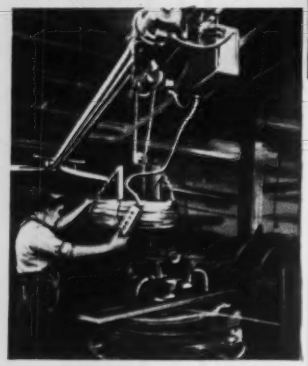
Turnover of Tangible Net Worth—The quotient obtained by dividing annual net sales by tangible net worth.

Turnover of Net Working Capital—The quotient obtained by dividing annual net sales by net working capital.

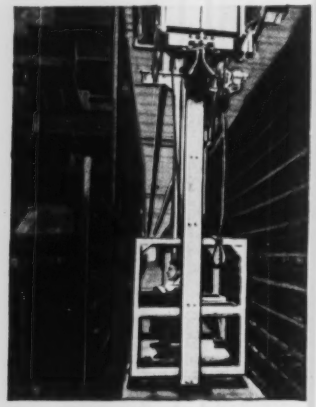
Line of Business (and Number of Businesses)	Current assets to current debt	Net profits on net sales	Net profits on tangible net worth	Net profits on net working capital	Net sales to tangible net worth	Net sales to net working capital	Collection period	Net sales to inventory	Fixed assets to tangible net worth	Current debt to tangible net worth	Total debt to tangible net worth	Inventory to net working capital	Current debt to inventory	Funded debts to net working capital
	Times	Per cent	Per cent	Per cent	Times	Times	Days	Times	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
FOR 24 WHOLESALE LINES—1958 MEDIANS AND QUARTILES														
Automobile Parts and Accessories (196)	4.45	3.40	10.56	12.90	4.56	6.05	32	6.7	6.3	21.8	49.2	67.3	39.2	8.7
	3.14	**1.93**	**6.26**	**8.61**	**3.25**	**4.07**	**38**	**4.7**	**13.5**	**38.7**	**66.4**	**84.6**	**56.0**	**18.9**
	2.21	0.73	2.88	3.98	2.34	3.22	49	3.6	27.3	62.9	100.4	108.1	88.8	38.4
Baked Goods (48)	2.58	5.02	19.36	75.00	5.10	19.64	9	35.8	62.5	21.9	41.9	39.6	103.1	34.1
	2.02	**2.50**	**11.71**	**44.78**	**4.08**	**14.06**	**12**	**23.5**	**71.8**	**29.4**	**54.6**	**58.6**	**174.6**	**82.1**
	1.43	0.74	2.92	11.63	3.50	11.35	15	20.5	95.3	44.6	80.1	89.6	239.4	180.0
Cigars, Cigarettes & Tobacco (76)	3.27	1.07	10.37	14.59	25.15	31.44	13	35.6	4.9	35.8	61.1	64.1	71.3	8.3
	2.11	**0.44**	**6.25**	**7.65**	**14.38**	**18.52**	**17**	**23.1**	**12.2**	**68.3**	**102.6**	**79.8**	**109.2**	**24.2**
	1.66	0.21	3.71	4.19	9.82	13.28	24	17.3	23.9	116.8	142.9	109.8	142.3	45.8
Confectionery (21)	4.76	4.62	16.13	22.21	9.58	19.24	20	25.0	4.8	10.6	24.1	50.1	65.3	2.7
	2.56	**1.48**	**9.30**	**11.67**	**7.92**	**10.43**	**23**	**16.6**	**12.9**	**26.7**	**47.7**	**70.4**	**83.8**	**18.0**
	1.81	0.40	3.29	4.55	4.33	6.37	32	7.8	33.2	64.6	94.6	95.6	114.5	60.5
Drugs & Drug Sundries (73)	3.32	2.54	12.43	16.01	8.85	9.34	22	8.6	6.1	37.7	48.6	68.6	55.1	10.0
	2.62	**1.78**	**9.49**	**12.13**	**5.45**	**6.62**	**33**	**7.5**	**15.3**	**53.8**	**64.9**	**89.7**	**69.4**	**15.9**
	1.97	1.00	7.61	8.37	3.73	4.62	45	6.4	28.8	86.5	105.7	102.7	102.3	28.5
Dry Goods (155)	6.30	2.05	8.89	11.81	6.26	7.09	38	7.2	1.7	16.6	44.0	50.9	34.9	10.3
	2.94	**0.67**	**3.14**	**3.90**	**4.21**	**5.29**	**54**	**6.1**	**4.9**	**43.4**	**65.8**	**69.5**	**69.4**	**14.8**
	2.03	0.06	0.21	0.27	2.79	3.59	65	4.6	11.4	83.0	98.4	100.3	118.1	26.7
Electrical Parts & Supplies (130)	4.00	1.79	8.51	11.19	6.58	7.64	38	9.6	5.6	27.7	45.9	60.0	55.3	8.1
	2.68	**1.05**	**3.60**	**6.35**	**4.56**	**6.06**	**44**	**6.3**	**10.9**	**45.2**	**87.0**	**75.8**	**82.6**	**18.8**
	1.94	0.31	0.76	0.85	3.01	3.64	57	4.3	23.3	80.1	122.6	95.8	132.8	27.9
Fruits & Produce, Fresh (51)	5.35	1.91	26.22	49.85	11.93	19.87	12	111.0	12.1	12.1	31.0	7.9	64.7	16.8
	3.30	**0.86**	**8.59**	**14.52**	**10.45**	**14.00**	**17**	**66.5**	**21.0**	**25.6**	**89.3**	**27.2**	**162.4**	**39.1**
	2.03	0.19	2.57	4.09	7.13	11.33	31	19.5	33.6	66.9	232.4	70.5	405.5	122.8
Furnishings, Men's (31)	7.00	9.04	19.55	26.07	5.71	4.87	28	7.8	1.3	11.5	33.7	33.9	32.0	6.4
	3.26	**1.65**	**7.31**	**7.81**	**2.59**	**3.16**	**49**	**5.9**	**2.5**	**42.5**	**79.6**	**55.7**	**71.3**	**20.6**
	2.28	0.12	0.35	0.36	1.93	2.33	77	4.1	6.1	74.9	142.6	74.9	135.6	52.3
Gasoline, Fuel Oil, and Lubricating Oil (42)	2.61	1.98	13.83	56.33	13.93	17.13	29	58.0	17.4	32.2	35.2	26.5	98.0	14.7
	2.01	**0.77**	**7.33**	**17.90**	**5.91**	**12.29**	**34**	**16.4**	**42.4**	**49.7**	**67.5**	**50.8**	**218.0**	**31.3**
	1.53	0.43	2.42	3.32	3.28	6.87	54	10.7	69.0	115.0	202.1	84.6	308.7	68.9
Groceries (253)	5.18	1.34	11.66	14.08	13.24	16.73	11	14.5	7.4	19.5	64.2	71.9	32.8	10.4
	3.03	**0.62**	**5.19**	**6.84**	**8.24**	**10.07**	**16**	**11.2**	**13.9**	**42.5**	**90.5**	**94.8**	**54.1**	**28.9**
	2.04	0.32	3.13	3.63	6.11	9.17	25	8.2	28.3	76.5	139.8	126.1	82.8	44.7
Hardware (191)	5.55	3.35	10.19	12.60	3.79	4.47	31	5.2	7.3	18.6	40.7	68.1	31.5	9.0
	3.50	**1.71**	**5.44**	**6.53**	**2.91**	**3.38**	**41**	**4.0**	**14.9**	**33.1**	**66.0**	**83.7**	**47.8**	**17.8**
	2.47	0.74	2.00	2.29	2.33	2.79	50	3.3	24.7	54.5	109.6	103.8	71.8	34.4
Hosiery and Underwear (38)	6.15	5.44	12.93	18.29	5.73	6.82	44	9.4	1.4	18.9	50.3	45.2	45.4	13.8
	3.36	**0.75**	**2.74**	**3.39**	**4.18**	**4.27**	**50**	**6.3**	**4.5**	**41.1**	**88.4**	**68.2**	**67.3**	**29.9**
	2.06	0.35†	1.45†	1.54†	2.34	2.35	76	3.8	17.7	75.4	108.8	97.8	95.6	54.1
Household Appliances, Electrical (101)	3.55	1.44	7.97	9.12	9.35	9.62	34	10.2	3.9	31.3	70.1	66.8	63.4	6.5
	2.17	**0.86**	**5.53**	**6.65**	**6.82**	**7.35**	**49**	**7.7**	**7.0**	**68.6**	**117.3**	**85.5**	**93.8**	**17.9**
	1.63	0.35	2.60	3.00	3.70	4.33	60	5.1	19.7	140.2	192.9	132.9	124.3	32.8
Iron & Steel Sheets, Strips, Bars and Plates (62)	5.03	3.00	8.16	10.88	3.52	4.53	29	6.0	9.6	19.3	38.2	74.7	33.2	8.8
	3.62	**1.78**	**5.50**	**6.91**	**2.69**	**3.62**	**39**	**3.9**	**24.9**	**28.0**	**56.0**	**91.8**	**45.1**	**20.2**
	2.64	1.04	3.13	4.54	1.81	2.93	47	3.4	39.1	49.9	74.0	106.1	68.1	34.5
Lumber (92)	5.33	2.80	7.84	9.41	7.71	7.82	34	9.0	5.3	15.7	48.3	40.0	34.7	8.0
	3.14	**1.04**	**4.57**	**5.42**	**4.15**	**4.89**	**44**	**5.4**	**12.0**	**33.2**	**72.3**	**68.3**	**77.3**	**20.8**
	1.84	0.34	1.81	2.36	2.22	3.06	54	4.5	21.9	73.6	131.6	100.0	132.7	47.0
Lumber & Building Materials (104)	7.05	2.58	8.71	17.22	6.83	12.08	26	8.9	8.7	13.0	36.7	47.9	31.3	7.6
	3.45	**1.24**	**5.10**	**6.31**	**4.52**	**5.72**	**40**	**5.6**	**19.9**	**27.1**	**66.5**	**73.9**	**59.0**	**21.3**
	2.18	0.71	2.40	2.80	2.33	2.60	61	4.1	35.8	70.2	108.6	91.5	124.3	42.2
Meat & Poultry (39)	3.92	0.87	12.92	19.80	20.97	40.13	9	71.1	16.3	24.3	43.4	31.5	90.5	36.8
	2.50	**0.44**	**5.00**	**8.36**	**11.83**	**26.84**	**11**	**46.8**	**34.1**	**39.1**	**78.6**	**40.8**	**134.0**	**51.5**
	1.74	0.07	1.66	3.11	8.99	16.41	14	29.8	53.4	109.2	160.6	87.2	207.6	69.6
Paints, Varnishes & Lacquers (31)	5.03	2.29	7.52	8.35	4.47	5.38	31	8.0	7.7	18.7	40.4	54.2	30.6	5.1
	3.37	**0.71**	**1.86**	**3.14**	**3.20**	**3.57**	**40**	**4.9**	**13.3**	**31.8**	**61.9**	**68.9**	**59.5**	**23.8**
	2.38	0.02†	0.07†	1.53†	1.85	2.71	59	3.5	31.1	54.2	104.3	90.9	87.3	29.6
Paper (133)	4.17	1.62	7.49	9.24	7.37	10.12	31	10.4	5.1	24.1	46.2	55.1	47.4	10.0
	2.83	**0.78**	**4.88**	**5.76**	**4.77**	**6.54**	**38**	**7.5**	**10.2**	**45.6**	**72.0**	**76.3**	**75.5**	**16.4**
	1.91	0.41	1.39	2.41	3.30	4.24	51	5.8	24.5	79.0	118.0	95.2	115.7	23.8
Plumbing & Heating Supplies (161)	7.11	2.65	7.24	9.44	4.13	5.17	39	7.5	7.2	13.8	40.8	58.2	32.0	3.6
	3.83	**1.06**	**4.02**	**4.61**	**3.24**	**4.02**	**49**	**5.2**	**15.2**	**29.7**	**66.7**	**74.1**	**51.9**	**14.9**
	2.33	0.42	1.54	1.77	2.33	3.00	63	4.2	23.9	63.6	106.6	102.1	86.6	28.3
Shoes, Men's, Women's & Children's (54)	3.75	0.98	3.83	4.38	8.73	9.49	41	9.3	1.4	27.7	52.8	42.3	63.5	12.4
	2.39	**0.56**	**2.25**	**2.42**	**4.00**	**4.82**	**58**	**6.9**	**3.8**	**63.0**	**110.6**	**61.2**	**103.6**	**25.8**
	1.66	0.03	0.07	0.08	2.87	3.36	76	6.7	10.6	122.1	201.7	99.7	169.3	37.4
Wines & Liquors (46)	2.98	1.15	11.11	16.82	10.33	18.03	21	12.9	4.5	36.5	86.2	61.8	73.0	7.1
	2.13	**0.94**	**5.93**	**8.26**	**7.76**	**9.46**	**41**	**9.9**	**14.0**	**69.8**	**121.2**	**84.3**	**109.4**	**17.2**
	1.50	0.33	3.10	4.37	5.37	7.11	54	6.0	28.5	121.3	204.4	152.3	158.3	40.6
Womenswear, Coats, Suits & Dresses (31)	3.26	2.44	11.47	18.48	6.23	7.74	31	18.1	1.9	27.5	43.8	28.0	84.1	22.0
	2.32	**0.48**	**2.17**	**2.72**	**4.88**	**5.53**	**57**	**6.7**	**7.6**	**56.3**	**100.6**	**45.6**	**152.9**	**36.3**
	1.85	0.52†	1.48†	2.70†	2.79	4.49	90	5.5	24.6	77.7	218.5	96.9	238.7	83.0
†Loss	**WHOLESALE GROCERS, BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIANS ONLY**													
1958 Under $200,000	**2.73**	**0.51**	**4.60**	**4.91**	**8.30**	**9.73**	**17**	**9.7**	**10.9**	**58.6**	**80.8**	**103.6**	**60.9**	**30.3**
1958 $200,000–$500,000	**3.08**	**0.73**	**6.01**	**6.86**	**7.46**	**9.68**	**14**	**11.2**	**12.4**	**40.6**	**110.9**	**93.4**	**55.6**	**27.9**
1958 Over $500,000	**3.13**	**0.59**	**4.77**	**7.29**	**9.53**	**12.61**	**16**	**13.7**	**17.9**	**37.4**	**84.4**	**94.0**	**50.4**	**28.7**



The loaded carrier has been dispatched to one of 150 heading machines. The Dispatcher is positioning the empty Louden MotoVeyor carrier for another load.



The carrier automatically stops at a selected heading machine, and operator lowers the coil of wire to heading machine reel. After hoist is raised, carrier automatically returns to Dispatch Area. Louden Shok-Pruf Electrification is used throughout.



Two Louden Tiering Trolleys serve each pan storage aisle. View shows Tiering Trolley Operator removing tote pan from storage for transfer to another department. The platform of the motor driven Tiering Trolley raises and lowers enabling the operator full coverage of the storage aisle. Current supplied by Shok-Pruf Electrification.

Industry's Airways UNTANGLE Materials Transport

In planning their new plant at Clifton, New Jersey, the Parker-Kalon Division of General American Transportation Company, manufacturers of self-tapping screws and metal specialties, "took to the air" to end longstanding problems and needless costs in materials handling. Working with Louden engineers, they took advantage of the opportunities offered by monorail overhead handling to coordinate materials supply and manufacturing needs from receiving of raw stock to the shipping of the finished product.

Typical of the improvements made was the handling of stock in the Heading Room. In previous practice, 450 pound rolls of wire were carried by fork truck, one roll at a time, and stacked at one end of the department. When any machine needed wire, the machine operator had to roll a bundle from the supply to the machine, lift it manually and place it on the empty reel. Now Louden equipment ends all this waste of time and the ever present chance of physical injury. Louden handling delivers the stock wherever needed easily, swiftly and safely.

When you have a materials handling problem or plant problem involving lifting and transporting loads, call on Louden for suggestions. Louden's unparalleled experience and proven engineering leadership combined with Louden's broad line of equipment can save time and mistakes. Write or wire today.

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Air Cargo Soars to a New Boom Level

» *Shifting markets and spiraling distribution costs are bringing a new boom in air cargo.*

» *Companies are gaining a marketing edge through air shipment of products ranging from auto parts to wallpaper.*

» *New jet freighters should lower air cargo rates to a level near rail and truck charges.*

IN THE BATTLE for market survival in the 1960's, the producer who can get there first and at the lowest possible cost will have a definite edge. Already many manufacturers are looking at the costs of physical distribution as an integrated whole (see DUN'S REVIEW, June 1959, page 60) and trying to provide consistently better service to customers. As a result, the air cargo industry is booming.

For the first half of 1959, all air cargo carriers—both scheduled airlines and all-cargo lines—had 24 per cent more volume than a year before. The Flying Tiger Line reports its volume was up 34 per cent for the first nine months of 1959 compared with last year.

Air freight has grown from 82 million ton-miles back in 1947 to one billion ton-miles in 1959. Conservative predictions point to a volume of 3.5 billion ton-miles by 1965.

Volume of rates down

The volume of air freight will double by 1963 and double again by 1967 if the recent prediction of John C. Emery, president of Emery Air Freight Corp., holds true. He looks for a decrease in air freight rates of as much as 50 per cent, which will make the service strongly competitive with less than carload and less than truckload shipments to points more than 500 miles away.

SWIFTER SERVICE: *Conveyers speed air freight at Chicago for United Airlines.*

Some industry observers are predicting that, by 1970, the airlines will receive most of their income from air cargo. At the present time, about 95 per cent comes from passenger business. This is in sharp contrast to the other modes of transportation—railroads and shipping—which rely on cargo revenues overwhelmingly.

The fastest growing segment of the air cargo business is air freight, which was begun fifteen years ago when larger and faster planes were introduced. Air freight is carried both on all-cargo planes and on combination flights. Air Express, which dates back to 1927, was joined in 1948 by air parcel post. Some shippers are now petitioning the Post Office for a new low-cost air service.

Behind the boom

The boom in air freight which seems certain to occur in the next few years is based on two factors:

- The development of specially designed cargo carriers, which it is said will cut in half ton-mile costs, which today are generally well above surface carrier costs.

In the past, cargo planes were not designed especially for rapid and low-cost load and unloading. They were simply converted passenger models. But the new jetprop freighters which have been ordered by several lines have double doors and even swing-tail fuselages in some models for fast cargo handling.

- Second, the promotion of the integrated distribution concept by American Airlines and other carriers has helped to break down management's resistance to using a service which may produce high freight bills but low actual physical distribution costs.

Speedier take-offs

One of the most critical problems that must be overcome before air freight can make a real breakthrough in transportation is the delay in loading and unloading. At the present time, about 80 per cent of the total transit time for a shipment by air is spent on the ground.

The new swing-tail CL-44 produced by the Canadian Division of General Dynamics Corp., which will come into service in 1961, will enable ground crews to complete loading or unloading in less than half an hour—a considerable reduction from the six to eight hours needed to load or unload the converted passenger planes now in use.

But despite the new advances in plane design and the development of special cargo models, the airplane remains the only type of cargo-carrying transportation in which the power unit is not separable from the body of the vehicle. This adds considerably to the cost of operation, for unlike the diesel locomotive or the highway tractor, the

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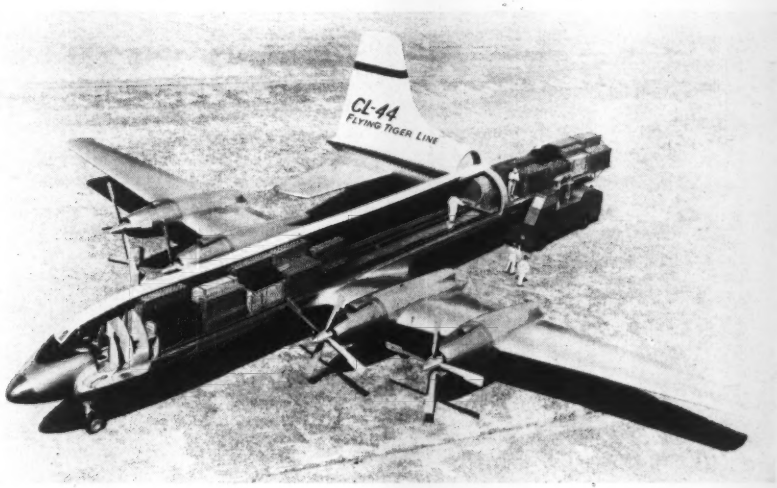

CARGO COST-CUTTER: *When this new jetprop freighter starts flying for Flying Tiger and Seaboard & Western Airlines in about a year, cargo rates may drop by about 50 per cent.*

high-cost power unit on the plane is tied up while the plane is loaded and unloaded.

However, the coming of the jet age has made available much more space for moving cargo. For example, the Boeing 707 has total cargo space of 1,670 cubic feet, compared to 651 cubic feet for the largest of its forerunners, the Douglas DC-7C.

Not only are the jet passenger planes—the Boeing 707 and the DC-8—providing much more cargo space, but in addition, the specially designed air freighters will have payloads of about 37 tons—the equivalent of two boxcars.

Airborne products

Three main categories of products now move by air:

1. Emergency shipments—such as a machine part for a stopped production line.

2. Goods that could not be moved were it not for air service—such as cut flowers, live lobsters, delicate tropical fish.

3. Products that can be distributed more economically by air than through regional warehouses. This is the fastest growing market for air cargo and includes a wide variety of products, including drugs, wallpaper, toys, and optical goods.

The boom in air cargo reflects to a large extent industry's insistence on slim inventories and frequent reordering. Companies are finding that the flexibility they need in this period of fast-shifting markets can frequently be achieved by the use of air service.

Increasingly, companies are coming to realize that it is not enough to focus only on freight rates in their attempts to reduce transportation costs. (See DUN'S REVIEW, June 1959, page 60). Instead, they are looking at all the elements that are involved in physical distribution—inventory costs, warehousing, packaging, order handling, damage claims—and considering them as a whole.

After taking a fresh look at the entire distribution system, companies are discovering that distant markets can be supplied from the plant more economically and just as fast by air freight as from a string of regional warehouses. Studies have shown that the cost of maintaining inventories and warehouses often runs as high as 25 per cent of the value of the goods in inventory. Also, the use of surface transportation requires an inventory in the distribution pipeline. And the value of this inventory is vulnerable to price shifts.

Shorter, safer transit

Some companies also report cost reductions are possible because air freight often reduces the need for extra packaging. Damage claims against air carriers have been running considerably below those for surface carriers. And, although the air cargo ton-mile rate is still considerably above that of surface carriers, the distance between two points is much less by air in terms of actual miles.

The traffic manager, traditionally trained to consider air only as an emergency service, represents the big-

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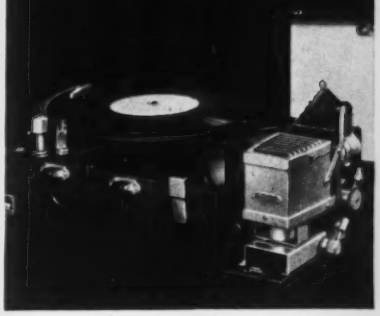

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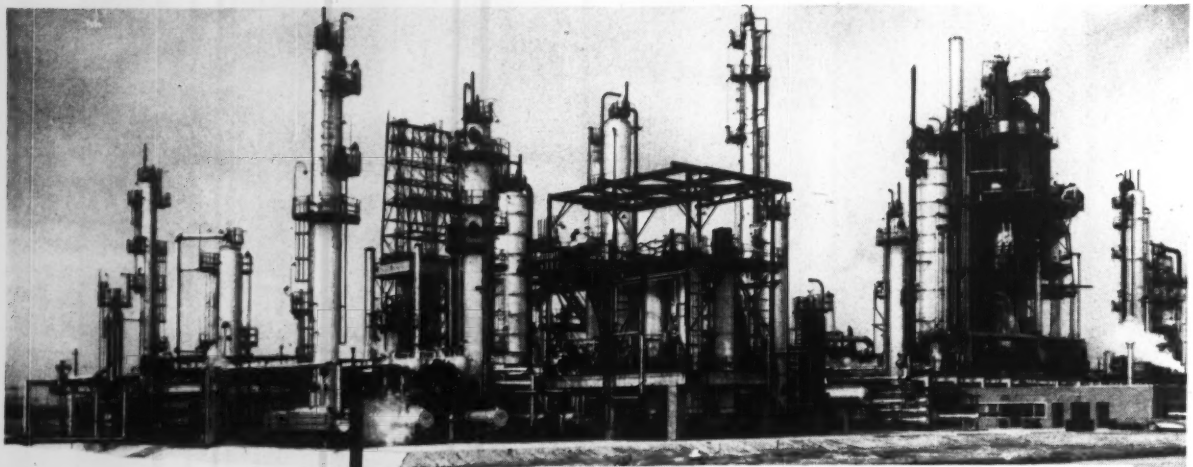
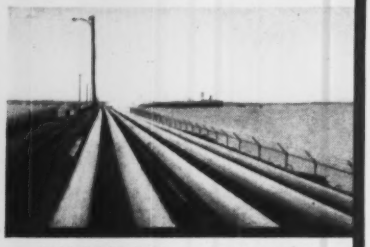


AMERICAN OIL COMPANY refinery at Yorktown, Virginia, cost $35,000,000 . . . employs 350 people . . . occupies half of 1300-acre site, the remainder being available for expansion. Over 35,000 barrels of oil per day are now refined.

CONTROL ROOM of one unit of the refinery, where skilled Virginians keep watch on processes. Plant uses 142 miles of piping, electricity at voltages as high as 13,800.



3000-FOOT PIER can accommodate simultaneously a 700-ft. tanker, a 550-ft. tanker and two 250-ft. barges. Important to Amoco, also, are "unsurpassed Hampton Roads ports."

Following are a few other outstanding industries that have located in VIRGINIA

- General Electric Company
- Allied Chemical Corporation
- A·S·R Products Corporation
- The Dow Chemical Company
- Monroe Calculating Machine Company, Inc.
- Reynolds Metals Company

Let Them Tell You What Prompted Their Decisions To Locate Here.

American Oil Needed Water, Electricity, Anchorage for Tankers . . . found them all

in Virginia

For its new $35,000,000 refinery, American Oil Company needed water . . . 73,000,000 gallons a day . . . plus electricity in tremendous quantities. They needed a deep-water anchorage where tankers and barges could unload as much as 600,000 gallons of crude oil an hour via 24-inch pipe. And they needed top rail and road transportation facilities.

They chose Virginia

More than 40 sites in a dozen states were thoroughly studied before choosing Yorktown, Virginia. Here the York River gives more than enough water to meet the refinery's big thirst and provides anchorage for the largest tankers. An adjacent power plant built by Virginia Electric and Power Company not only provides ample electricity but also burns 600 tons of coke a day produced by the refinery. Rail and road facilities are excellent.

Extra dividends, too

In addition to unique geographic advantages, Amoco received *extra* dividends by locating in Virginia. Local manpower has proved unusually productive and quick to learn new skills. Transferred personnel are enthusiastic over the good living, the social, recreational and cultural advantages of Virginia. And top officials welcome the favorable business climate . . . the state's strong leadership, lack of public debt, good economic and political attitudes. In the words of one Amoco official, "Nowhere did we find human resources to the degree that we found them in Virginia."

If you're planning a new plant, let us tell you why so many companies are locating in Virginia. Phone, wire, write . . .

C. M. Nicholson, Jr., Commissioner
DIVISION OF INDUSTRIAL DEVELOPMENT
Virginia Dept. of Conservation and Economic Development
State Office Building, Richmond, Va.
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gest hurdle facing air freight proponents at the present time. Consequently, the promoters of air service have been seeking the ear of top management. Another reason for going to the top man is that the changeover to air for regular distribution involves decisions that cut across many company areas—inventory control, warehousing, packaging, distribution channels.

In early years, air freight was primarily an emergency service, and for many shippers it is still just that. The breakdown of a production line for the want of a missing part was the traditional impetus to the use of air freight.

By cutting inventories to the bone, management is creating states of near-emergency in which it has to rely on air service more and more. Companies are discovering that so-called planned emergencies—the reliance on air service rather than on large stocks of spare parts—is often more economical.

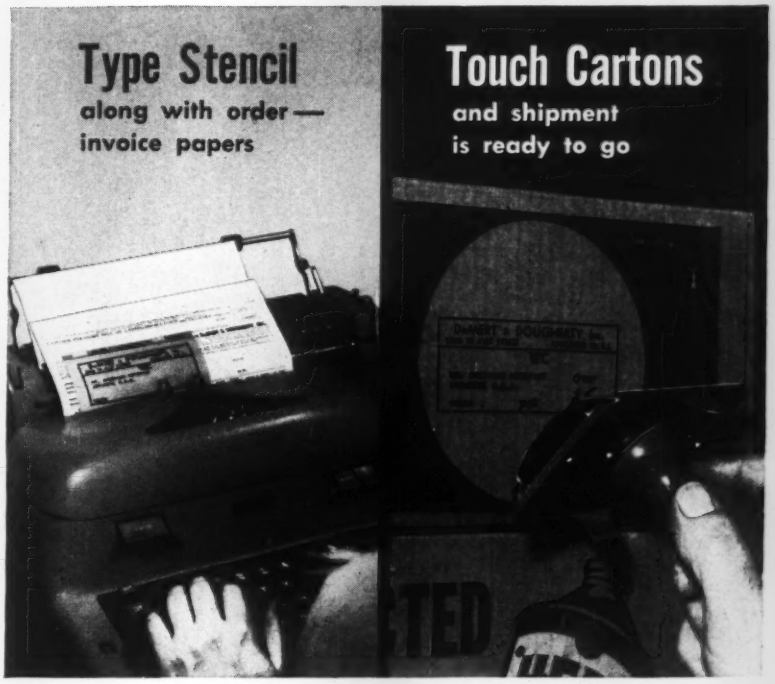
However, the rocketing growth of air freight in recent years attests to the fact that many companies have turned to air for their non-emergency shipments. Industries in which time is a critical factor—advertising, cut flowers, high-fashion apparel, magazine publishing, films—are using air for all or a substantial share of shipments.

Savings on overseas shipment

One of the most important economies achieved through the use of air service is in international trade. Every time freight is shifted from one kind of carrier to another, it costs money. Air transportation reduces considerably the number of transfers between different carriers needed for overseas shipment.

Renault, Inc., is saving money by air-freighting auto parts from France to the United States, because the uncrated parts can be delivered by truck directly to the air carrier instead of being crated for shipment by truck and rail to dockside.

Clearly, the future potential for air cargo is immense. A recent joint study by the U.S. Census Bureau and the Boeing Airplane Company revealed that planes today are flying only about 5 to 10 per cent of the ton-mileage suitable for airlift in the export-import trade. Boeing points out that because of the longer distances and slower speeds of surface transport in international operations, the potential for the cargo plane is even greater in world trade than in domestic operations. —T.K.



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Magnetic Materials Section reports on permanent magnets . . . and on why they are replacing wound-motor fields in modern radar systems and in many industrial applications

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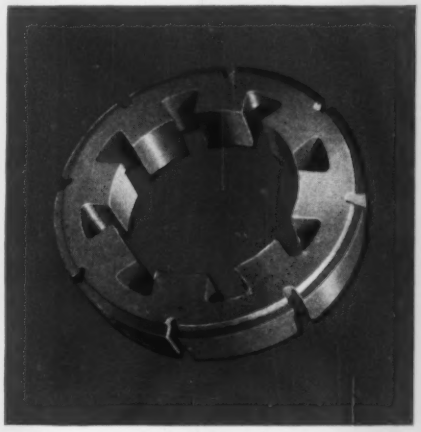

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Modern business ethics are improving with the increased sensitivity of management toward its employees, customers, suppliers, and stockholders. But when it's a case of ethics versus profits, an uncomfortable basic question rises up and demands to be answered . . .

Business Ethics:

Policy or Principle?

A. M. SULLIVAN

THAT VERSATILE old pragmatist, Ben Franklin, is responsible for the wall motto, "Honesty is the best policy," and many other wise saws which appeared in *Poor Richard's Almanac*. But was he right? Is honesty a policy or a principle?

Good ethics in the broad sense is amply covered by the Golden Rule, but broad concepts are not always easy to apply. In the complexity of world competition, many trying situations arise to test the conscience of the individual. In these situations there can usually be found (1) an area of debate about the proper ethics, (2) a passive acceptance of custom or method which taxes ethical definitions, or (3) a flagrant abuse of fact which is inexcusable on ethical grounds.

In reality, there is scarcely an hour of the day when the business man is not called upon to make ethical judgments among employees, customers, stockholders, and the public. Men of strong moral principles make many ethical decisions instinctively, even when the choice costs them time, money, or the sacrifice of a temporary advantage over competitor or neighbor. A really sensitive conscience is apt to confuse scruples with principles and give the other fellow the benefit of any doubt. Conscience, in the words of Kant, is "an instinct to pass judgment on ourselves in accordance with moral laws," and moral law is a better mirror of duty than any man-made discipline.

The dictionary, in defining ethics as "the science of moral duty," adds in an explanatory comment: "Absolute ethics affirms an unchanging moral code; relative ethics regards moral rules as varying in the human development." Here is a key to modern problems in ethical behavior, ethical example, and ethical leadership.

The moral impulse must come from something higher than the urge for personal rewards.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Absolute ethics includes the disciplines of the spirit. Relative ethics, like regulatory law, is easily amended by circumstance. In business and industrial relations, relative ethical standards advanced a little in the nineteenth century and a lot in the twentieth century. But ethics needs the indignation of the spirit to give added impact to its force in behalf of the rights, privileges and dignity of man.

Behind most ethical offenses are the half-truth, the mental reservation, the selective reasoning which weaken the sense of verbal agreement, the understanding of a responsibility. Staying within the law is never a guarantee of acceptable ethical conduct. In fact, the law itself on occasion can and does encourage unethical behavior. In any vast organization of people, the bewildering impact of numbers makes it difficult to maintain a sharp ethical focus on the rights of the individual. One of the dangers of group decisions is that

picking an industrial site is a job for specialists

A large corporation usually has a staff that does nothing but make surveys and prepare detailed reports on communities under consideration. The smaller corporation without such a Site Location Department only too often finds that lack of experience in this specialized field may cause it to overlook some highly important factor.

To any company, New York Central offers a service that goes beyond even that of the large corporation's own Site Location Department. Information about water supply, available labor, transportation costs and similar factual material is basic, of course. What Central can give you in addition is the experience of having "lived" in the community for a hundred years or more.

We know things about its political atmosphere, tax policies, real estate trends, labor relations that you don't learn fully by even a competent survey.

We know whom to see to get things done; where to go for financing. If you need technical advice on such things as water treatment, utilities, access rights – we have top authorities on scores of such subjects right in our organization.

For instance, there was one site which seemed to meet a company's every requirement until our engineering department pointed out that the load-bearing capacity of the soil in that particular spot was not sufficient for their heavy machinery. A nearby site provided better soil conditions plus all the advantages of the first location.

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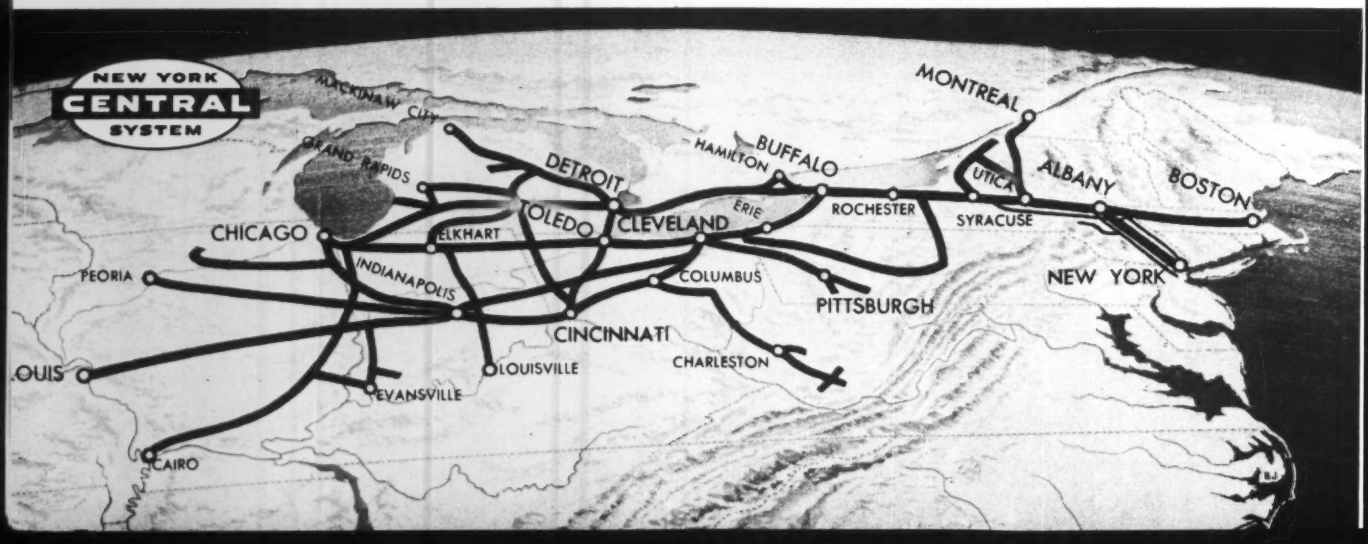

the broad, impersonal judgment lays a heavy hand on the just and unjust, the skilled and unskilled, the energetic and the lackadaisical.

Actually, there is no easy distinction between the morality of the corporation and the morality of the individual. The corporate conscience must be interpreted by individuals. Policies established by group management place an executive and administrative warrant on the individual to perform definite assigments of an ethical nature in practically every step and every level.

Ethical behavior is concerned above all with human values, not with legalisms.

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If an act is legal, is it necessarily ethical? A judge indicted for suborning in a real estate deal made the technical defense that "I did nothing illegal." To stay within the law but outside the pale of ethical behavior is the device of the trickster who uses Blackstone as a shield for his acts of deceit.

Ethical behavior is concerned above all with human values, not with legalisms. Most law applying to business is regulatory, and often it has nothing to do with civic virtue or commercial rectitude. In some communities, there is local option on liquor sales. Gambling is permitted or restricted in varying degrees by the several states. Speed laws differ according to the whims of local ordinances. Sunday retail sales are permitted, limited, or forbidden by state or city laws. Here there is no intrinsic problem of good and evil, but rather of public attitude or convenience. Regulatory law is obeyed because it is a legal discipline, not because of inherent principle of virtue. However, no law which is discriminatory, selective in privilege, or unjust in design commands respect or even obedience.

Life is competitive, and where there is competition there are bound to be inequities.

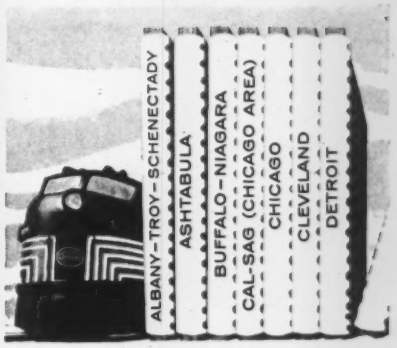
★ ★ ★ ★ ★ ★ ★ ★ ★

The bankruptcy law is a humane instrument by which the penalties of commercial failure are limited to the nature of the risk. Most companies or individuals "going through the wringer" represent a shrinkage of receivables for their suppliers, who accept these losses as part of the risk of trading for profit. After a bankruptcy composition, some individuals shrug off their obligations and silence conscience with a legal rationalization. Others—and these are in the minority—refuse to hide behind the law. They pay off their obligations even if it takes a lifetime. Here is a clear example of absolute versus relative ethics.

Special tests of ethical fiber in business have multiplied in this period of mergers and acquisitions. Besides the compatible marriage of interests in which the rights of customer, labor, and stockholder are considered, there are also many shotgun marriages in which a competitor is eliminated, a town injured economically, a product shelved, a treasury raided of its cash, and a loyal staff scattered after years of service. If any group of individuals has a calloused hand, a dull conscience, and a harpy eye, it is the merger specialist, who uses a weak, often family-managed company as merger bait for tax-saving purposes. Although investing capitalists are not likely to be altruists, many refuse to sacrifice companies which can be saved by better management. Anti-trust legislation cannot restrain all the shrewd offenders against the moral law.

Some ethical decisions are closely related to basic economic decisions. Two automobile companies produced cars with defective mechanisms. One later replaced the faulty parts at a tremendous cost that soaked up profits for a full year, but the decision almost guaranteed profits the next year through a recognition of a moral responsibility. The other refused to make good on an engineering error, was sued by customers and dealers alike, and suffered a prolonged business setback.

An appliance company voluntarily wrote to several thousand customers and offered to replace a faulty installation without charge. This decision cost several millions of dollars,



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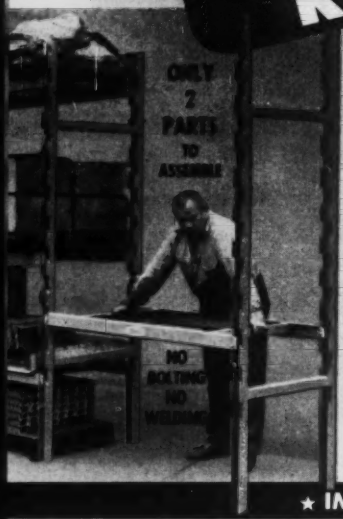

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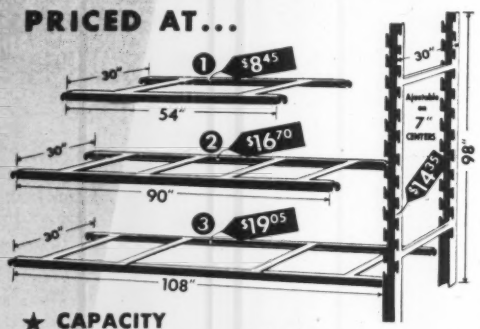

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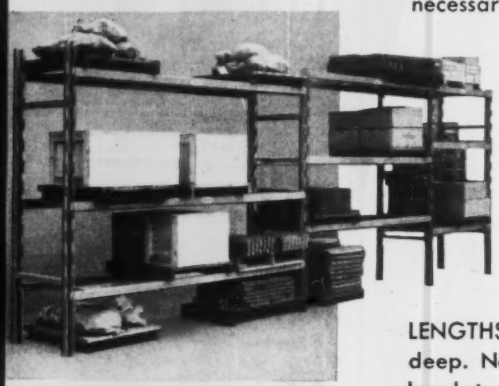

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but it was worth considerably more in good will.

Ethics and guarantees are frequently at odds, especially when a company retreats from claims and complaints behind a thick hedge of small type. On the other hand, there are always dealers and customers who seek a special advantage by returning distress merchandise or goods damaged in use rather than in transit. The claims made for insurance place a heavy burden on the conscience of many consignees.

The income tax has taught business men many bad lessons and led to many marginal decisions.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The moral issue of featherbedding and sweetheart contracts in labor-management relations deserves a chapter to itself, because the moral offense against labor bargaining is a continuous conspiracy in which men play traitors to their fellow-workers. Business men who condone the bribe to labor leaders are at a low stage of depravity in industrial relations, lower in fact than the men who take their favors.

Life is competitive, and where there is competition, there are bound to be inequities. Except under the law which guarantees their rights as individuals, people are equal in no respect. One of the ethical difficulties in an industrial democracy is conflict between the urge of superior talent to rise to a higher level and the heavy weight of numbers, which tend to pull down that level to mediocrity. In the eyes of any morally sensitive leader, there is a fine distinction to be made between the recognition of talent and the fair treatment of the low median of humanity—which is entitled to consideration but not priority.

There is also the perpetual conflict between seniority and ability. Designed as a recognition of loyalty, the seniority rule is often a detriment to progress in management. Many utilities, banks, and old-line companies lose able men who refuse to be mere time servers. Any decisions affecting seniority are certain to have significant ethical echoes, with the moral

margin favoring the right of a young man to move ahead.

Among the marginal areas of ethics is the relationship of vendor and supplier and the degree of decency by which favors can be obtained, orders secured, or broad public relations advantages obtained. The Internal Revenue Service recognizes entertainment of actual and prospective customers as a legitimate expense, up to an indefinite point. But where is the point at which the cost of the social softening of a customer by entertainment becomes an ethical offense? Can anyone put a percentage limitation on commercial bribery? Some companies would fire a purchasing agent or an engineer in charge of specifications for pursuing a policy encouraged or winked at by their own sales department.

If the income tax man recognizes the pragmatism of commercial bribery—whether it be the accepted custom of a dinner, theatre, and night club or the moral turpitude of a direct cash handout—there is good reason to consider the whole range of commercial handouts as unethical. But there is equally good reason to know that it will continue so long as people are more emotional than rational in their judgments. Recognizing that the principle of honor and loyalty condones no violations, a line must be drawn between good taste and good grace in the giving and receiving. If it is "more blessed to give than to receive," then the moral responsibility begins with the donor.

Business men who condone bribes to labor leaders are lower than the men who take their favors.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The income tax law was conceived primarily as a revenue-producing instrument of the Government, with little regard for ethical consequences. It has taught business men many bad business lessons and led to many marginal decisions. Even the Government can incite dishonesty by the inequities of the law and by favoritism or laxity in its enforcement.

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open-face . . . sliding-door . . . swinging-door

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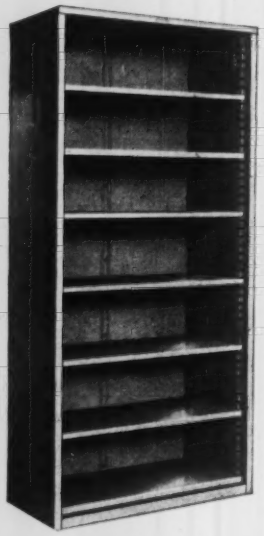
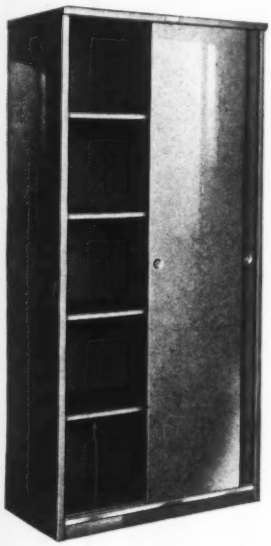


Borroughs' design, quality and exclusive features assure you top rating in appearance, efficiency and value. May we suggest that you have your purchasing agent compare Borroughs Cabinets with all others before he places another cabinet order.



Open-face Bookcases and Supply Cabinets in heights of 29", 42", 78", 84"—depths of 12" and 18". Sliding shelves are adjustable without tools, nuts or bolts.

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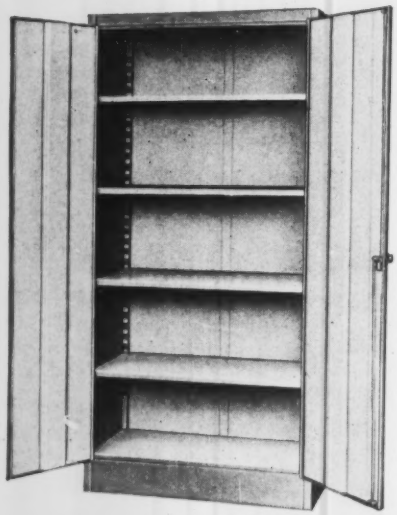

Sliding-door Cabinets available in heights of 29", 42", 78"—depths of 12" and 18". The 29" and 42" units have steel or glass sliding doors—78" cabinet has steel sliding doors. Adjustable shelves same as open face models.

Swinging-door Cabinets in 2 heights—42", 78"—3 depths—18", 21", 24". Single central handle with Yale & Towne built-in lock. Doors have 3-point latching, and swing completely open for full accessibility. 78"-high Cabinet in 3 styles—storage, wardrobe, combination. Shelves are adjustable without tools.

All Borroughs Cabinets are 36" wide.

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the plus and minus in ethical behavior —the legal, the marginal, and the definitely illegal. Each man sits in judgment on his fellowman, some judging with charity toward the weaknesses of human nature, some with a rigid measure of justice under the law of custom and the law of the land. What, then, is ethical conduct, and how do we gage it?

We can consider the answer of Etienne Gilson, the French philosopher: "Moral honesty is, at bottom, a scrupulous respect for the rules of justice; intellectual honesty is a scrupulous respect for truth." This standard would apply to all men of industry and trade. It would call for rigid honesty in financial negotiations, accurate identification of materials, strict adherence to quality controls in manufacturing, fairness in labor relations, candor in product pricing, honor in warranties, and truth in advertising statements.

Seeking a profit is never an unethical impulse when both sides of the contract receive a benefit and no one is caught in between. "Caveat emptor" (let the buyer beware) is a flag of cynicism, and when that motto is the primary guide of the man going to market, some one is going to be cheated. Many business men have learned about the empiric law of reward which demonstrates that good ethics is also good business, because confidence adds lustre to an ethical relationship.

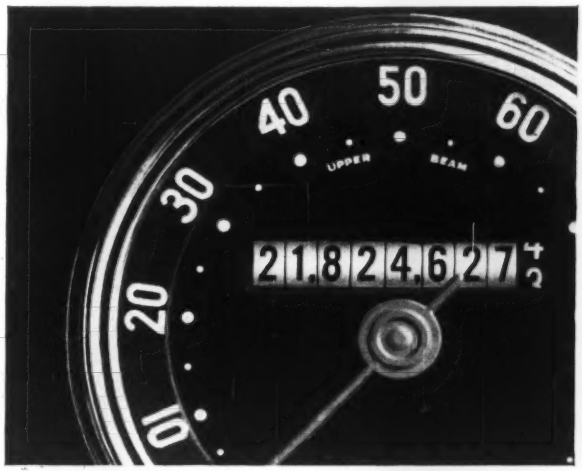
The final arbiter

The thief and murderer are easily defined under the criminal code, but the law is hopeless as a sieve to catch all the offenses against the moral law. Behavior is analyzed by the psychiatrist and measured by the moralist, but in the marginal areas of good conduct and honest judgment, there is no substitute for personal conscience. When a man is asked to perform a dishonorable act for a superior—whether individual, corporation, or branch of government—he is bound by conscience to refuse, regardless of the penalty to himself. Men are equal neither in mental nor physical powers, but they do have a sense of right and wrong in conduct.

Industry and trade, capital and labor have moved forward in their ethical attitudes, but there is still plenty of room for improvement. Moral progress is painfully slow, but the primary gain must come through self-

Four good reasons why you should choose Chicago Express

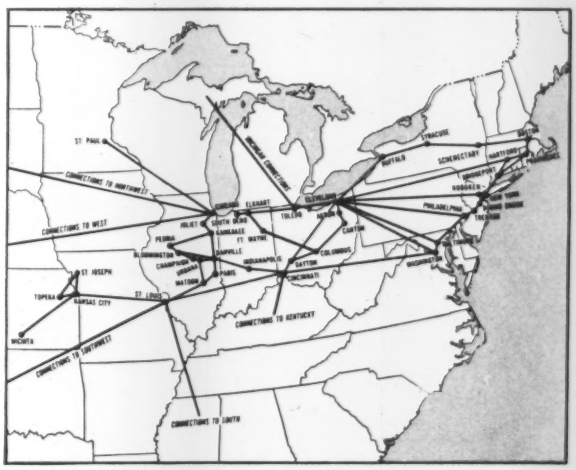
(the dependable carrier serving the East and West)



1 EXPERIENCE—CXI is one of America's fastest growing, class I carriers. This year, Chicago Express will travel twenty-five million miles, a 16% gain over 1958. Choose CXI with the necessary experience to handle the job.

2 RELIABILITY—CXI rigs get *through*, even when ordinary traffic is at a standstill. This one rolls through a flooded area in Bowling Green, Ohio, at midnight, assuring the customer of the usual on-time delivery service expected from Chicago Express.

3 SAFETY—CXI is proud of their ever growing roster of "Million Mile Pilots." Shown here is Bernie Cope who has a record of nearly two million miles of perfect driving to his credit...no accidents...not even a single claim, during that span.



4 SERVICE—CXI has 22 modern terminals throughout the East and West. Two new ones were opened this year...in Buffalo and Syracuse. Five maintenance depots and 39 tire banks are strategically located along CXI routes to insure fast, dependable service.

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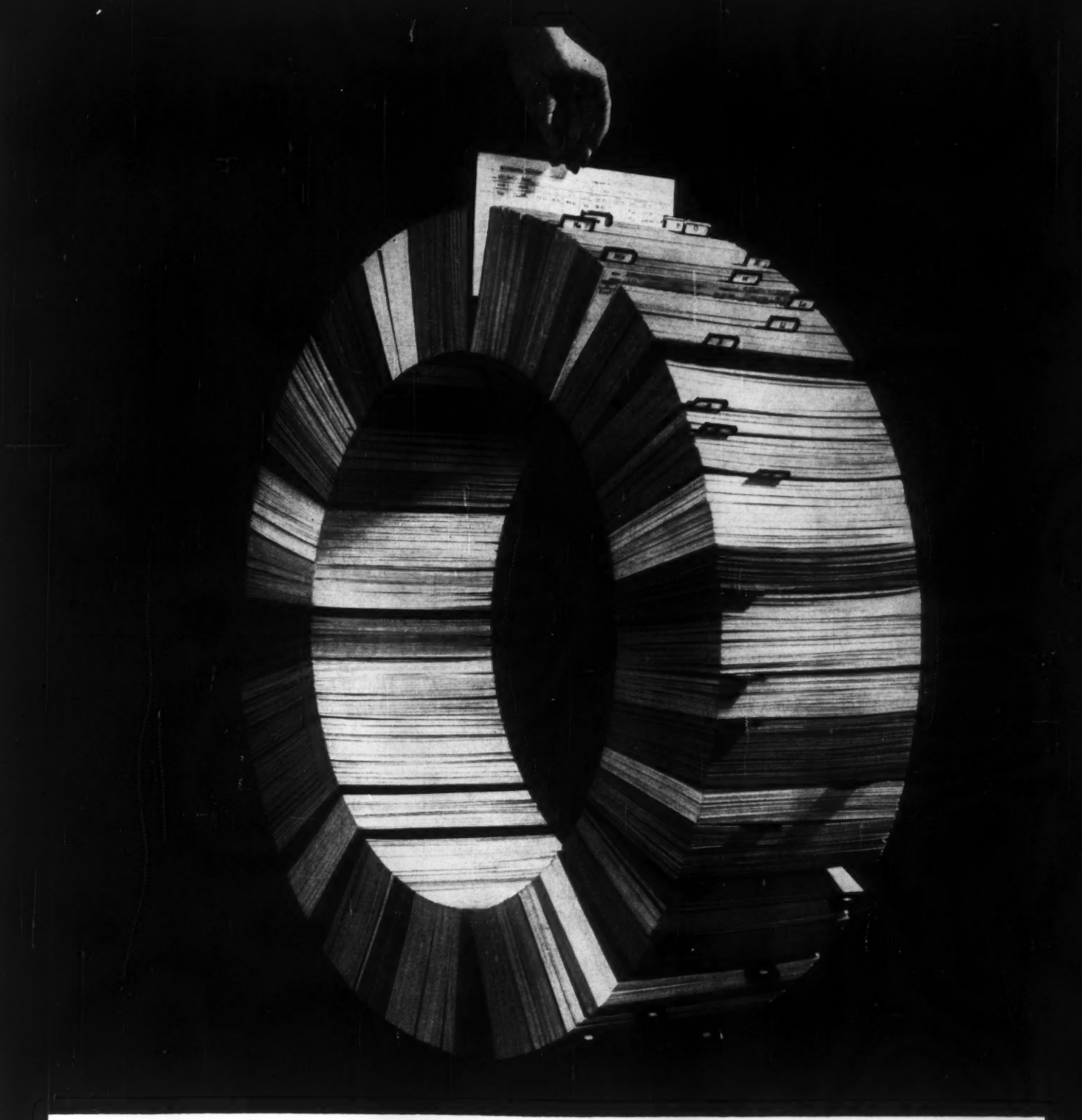
discipline rather than legal compulsion. Ethical conduct benefits more from example than from edict. As a negative example, a group of men in a war industry under liquidation were accused of stealing materials by the carload, property belonging to the Government. The plant manager was not involved in any way. When he was castigated for "letting the men steal the plant from under your eyes," he made this comment to the company president, who had some inkling of the shenanigans: "If you teach men to steal for you, they'll steal from you." And he knew whereof he spoke.

The struggle for standards

In all truth, industry and trade are the creations of man's ingenuity and reflect the level of his moral actions. They are essentially good because the majority of mankind seek and prefer the good, resisting the drag of their animal and material instincts. The struggle for a high ethical standard persists despite all the negative pull for short-term advantage. Ethics in big business, small business, professional life, even the much criticized area of labor relations has improved under self-criticism as well as legal restraint. But ethics without a spiritual incentive has had difficulty in maintaining or gaining momentum. The moral impulse must come from something higher than the urge for personal reward, corporate profits, or any other material benefits. The most dangerous enemy of ethics is cynicism, the frustration that comes when the man of high moral principle admits defeat and says, "What's the use?" Management cannot afford to permit a cynical attitude to weaken its devotion to ethical conduct at all levels of authority.

Ethics is a silver thread in the fabric of our daily business life. It is always visible to the perceptive eye. It takes on a luminous glow when we perceive that ethical practices are part of the spiritual fiber of the man in management. If we were half as concerned about our own ethics as we are about the other fellow's, there would be no serious problem. Conscience dictates that virtue is an end itself, not a pragmatic means to a material end. The compensation comes with satisfaction in doing "unto others as you would have them do unto you." Doing it without public incentive is good business ethics in both policy and principle. END



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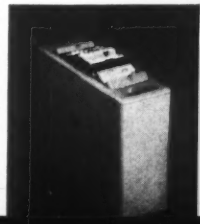

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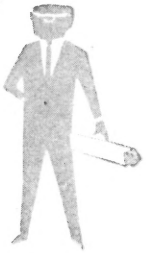

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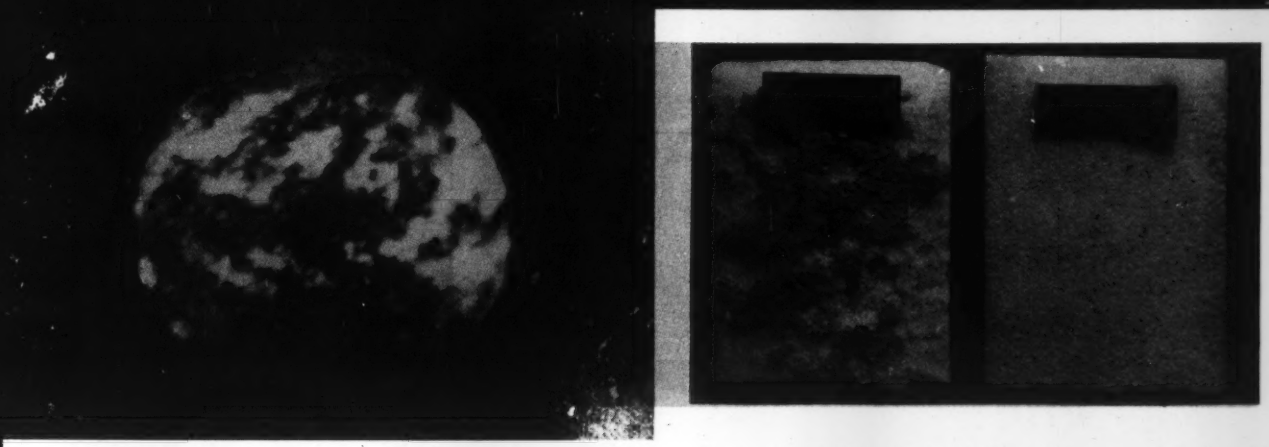

SUNBURN: *An ultraviolet photo taken by a camera in a Navy rocket 123 miles up reveals the sun as a gigantic source of destructive UV. The crumbling plastic shows what this radiation can do. However, with Dow salol added to the lacquer coating on this foamed styrene, the surface (right) is virtually undamaged after fourteen months' exposure to Arizona sunlight.*

ULTRAVIOLET:

Industrial Boon and Bother

IF industry is to continue to advance, it must wring full measure out of our present store of physical and technical knowledge. One of the "specialty" technologies that is currently being exploited to a greater degree is that based on ultraviolet radiation.

Ultraviolet or "black" light is both a benefit and a bother to industry. As 5 per cent of the prodigious light energy pouring down on us, it slowly but surely destroys organic materials. On the other hand, when UV is artificially produced in small, controllable quantities, it can perform many tasks for industry.

Plastics, paints, and fabrics suffer the most damage from ultraviolet rays. Given enough time, the ultraviolet in sunlight will completely shred a plastic part.

Until a few months ago, the remedy was to keep repainting plastic objects left outdoors—or else mix carbon black into the plastic before molding, which does a good job of absorbing the UV but eliminates the possibility of using any other color.

Now American Cyanamid and a few other chemical companies have developed new, transparent ultraviolet absorbers, permitting the treated plastic to be translucent or tinted. Moreover, if there is a need to protect something underneath the plastic part from ultraviolet radiation, a little more absorber does the trick.

Here are a few of the potential markets for polyethylene, vinyls, Plexiglas, polyesters, and other plastics which can be protected by ultraviolet absorbers:

- plastic film windows for greenhouses
- plastic rope
- plastic windows and skylights for plants and office buildings
- tarpaulins for outdoor storage of parts, materials, and equipment
- windshields
- backyard plastic pools and rinks
- beach toys and equipment
- TV antenna wire

Although there are still some plastics for which present absorbers are not suitable, research should soon solve this problem. When this is done, the use of plastics in making products for outdoor service should be greatly expanded.

Paints, lacquers, and varnishes can also be protected by the absorbers. The new fluorescent paints, widely used on aircraft and trucks, depend on ultraviolet light for their brightness. However, since little light is needed, some absorbers can be added to extend the life of the paint.

Just as UV in sunlight destroys materials, it also kills germs. This ability has been harnessed to protect people and food. An ultraviolet lamp mounted in an air-conditioning duct will kill up to 80 per cent of the harmful bacteria in the air flowing past it. Many companies have UV lamps mounted in washrooms.

Meat and food processing plants are equipped with banks of UV lamps

How Industry Uses UV

To protect health of employees with germ-killing UV lamps.

To sterilize water and other liquids.

To observe structure of organic materials.

In spectroscopic analysis of materials.

In process control.

In pin-hole detectors for foil-inspecting machines.

In chemical processing.

In accelerated tests of light fastness.

To make "whiteprints" and in other copying machines.

Pinkerton Plant Guard Force Saves SPS $25,000 a Year

When Pinkerton's guard force replaced Standard Pressed Steel's own "home guard" in Jenkintown, Pa., security went up, costs came down, and the former guards were relocated within the company to everyone's satisfaction. Now the guard force is trained and supervised by professionals instead of busy plant personnel. The company does not worry about replacing men on vacation or those who report sick, because Pinkerton's service includes keeping every post manned at all times. And when SPS needs to qualify for classified work, Pinkerton's promptly assigns the necessary Government-cleared guards. Finally, Pinkerton's takes care of all fringe benefits, Social Security, uniforms, revolvers and other necessary equipment. Within a short time SPS found that its *improved* security was costing $25,000 a year *less*.

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Name_____ Address_____

Company_____ City_____ Zone____ State_____

DR

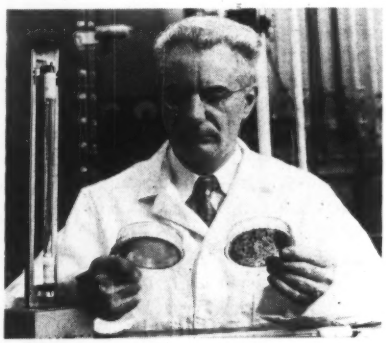
GERM KILLER: *The tiny Danco ultraviolet lamp mounted on the side of this telephone kills bacteria on the mouthpiece. It is activated just long enough to do the job.*

in refrigerator rooms to protect the food.

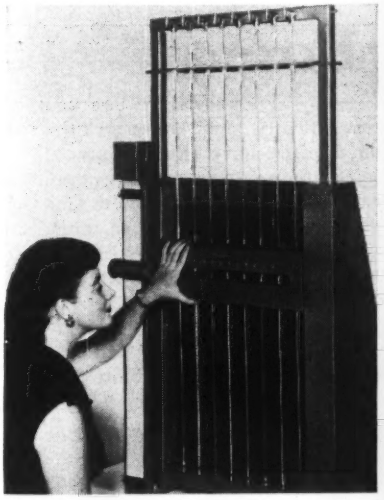
The small UV lamp mounted on the telephone (see photo) is designed to reduce transmission of infections among telephone users. A survey by the National Pathological Laboratories showed that 45 per cent of the telephone mouthpieces examined contained dangerous bacteria. The little UV bactericidal lamp is particularly effective on company phones used by many people.

Since UV stimulates so many chemical reactions, banks of UV lights are being tested for their ability to process chemicals.

Ultraviolet devices have many uses in the industrial research lab. The Radio Corporation of America has re-



BEFORE AND AFTER: *Dr. Rudolph Nagy, manager of ultraviolet development for Westinghouse, examining two Petri plates exposed to contaminated air. The one at the left is free of the bacterial growths on the other because it was exposed to UV.*

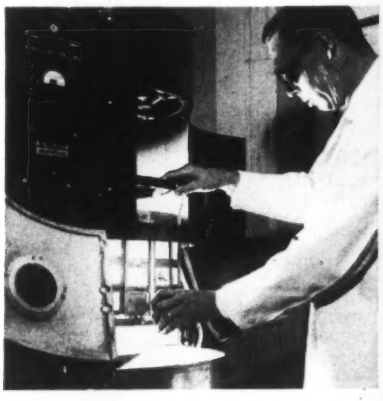


FAST ANALYSIS: *This Jarrell-Ash ultraviolet analyzer enables a technician to determine quickly valuable properties of eight samples of petroleum at the same time.*

cently developed an UV attachment for microscopes. Although mainly for medical scientists, the attachment also enables chemists to study the cell structure of fibers, woods, leathers, and other organic materials used in large volume by industry. It is used in conjunction with a Bausch & Lomb microscope.

Other UV research instruments are the spectrograph, which identifies unknown compounds, and the chromatographic analyzer (see photo), which determines certain desirable properties of compounds.

Still another instrument, the UV analyzer, is used for automatic control of continuous processes. This instrument can signal, far faster than a human, the need for some correction in a process. —M.M.



TESTING *the effects of UV-absorbers on various plastics in a light box at the Boundbrook, N.J., lab of American Cyanamid.*

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The snap-brim stays home

HARD HATS are turning up in a lot of unexpected places in New York State these days. They're being worn by men who get things done: the experienced business and professional men who now occupy key positions in Governor Nelson Rockefeller's new cabinet.

To create more and better job opportunities throughout the state, these hard-hat "doers" have launched dozens of new programs for industry. State programs are under way to improve the administration of laws affecting business. Still other programs are helping to upgrade public facilities and services offered by local communities . . . cement the already favorable relationships between business and labor . . . streamline state and regional tax policy . . . and weld urban and suburban areas into economically sound units. In fact, 73 New York State communities have already entered the Federal-State Urban Planning Assistance Program.

If you agree that your company could grow in this hard-hat businessman's climate, why not get in touch with Commissioner of Commerce Keith S. McHugh? He will provide you with free, up-to-date reports on sites, labor, transportation, markets, raw materials, water. The reports are comprehensive, confidential, and tailored to your needs. Write Keith S. McHugh, New York State Department of Commerce, Room 253, 112 State St., Albany, N. Y., or phone ALbany 5-7521.

GET UP TO DATE ON NEW YORK STATE
where they're talking the businessman's language

Spy and Counterspy in Industry

BACK in the nineteenth century, anyone who wanted to know at what capacity the steel mills were operating had to sit on a hillside near Pittsburgh and count the smoking smokestacks. Today, the industry publishes not only percentage-of-capacity figures but a vast amount of other data —enough, in fact, to horrify the close-mouthed steelmakers of the past.

Exchange of information—through Government reports, technical meetings, trade publications, and personal contact—is now so common among American business men that it seems the "trade secret" is becoming a thing of the past.

But as more and more information is being declassified and made readily available to competitors and the general public, rising technology is creating more business secrets and more means of tapping them.

This was brought home forcibly to many business men a few years ago when an industrial spy was brought to book for tapping the telephones of such business organizations as Revlon, Inc. and Hazel Bishop. During the same investigation, it was charged that no less than six New York City telephone exchanges were tapped, partly in the interest of industrial spying.

Were these isolated instances, or, like the tops of icebergs, only an indication of what lies hidden below the surface?

More than meets the eye

A recent study, made by nine graduate students of the Harvard Graduate School of Business Administration and published by C. I. Associates of Watertown, Mass., indicates that the latter may well be the case. The study—probably the first attempt at a more or less comprehensive survey of methods of information collection—reports executive opinion on the subject of industrial espionage and includes court cases and instances cited by detective agencies that engage in counterspying for industrial clients.

Of the 300 executives who answered the researchers' questionnaire or offered information in personal interviews, 200 replied to a question on illegal or unethical industrial fact-finding. Since no one could be expected to admit that his own company had used illegitimate methods, and since the spied-upon may not even know they are under observation, the fact that more than 50 (27 per cent of the 200) reported that undercover information gathering had *recently* been discovered in their companies is an indication that the problem is a serious one. Of this group, executives who thought that spying was on the increase were more numerous than those who thought it was becoming less common.

Ethical espionage

Methods of industrial espionage vary widely from practices that may be defended as entirely ethical in a competitive world to those that are downright illegal, like wiretapping.

In the category of ethical fact-gathering is the practice admitted by one of the executives who took part in the survey: He assigned an employee to count the number of cars in the parking lots of two major competitors—which gave a pretty good index of the number of people currently on the job, and so of production and sales figures. "Pumping" executives of other companies is also considered defensible in some management circles. Though the more fastidious might shy from using friendship in this way, it can be argued that business men who are so careless as to give away their trade secrets inadvertently deserve what they get.

More questionable is the practice of hiring away a competitor's employees in the expectation that they will bring confidential information with them. This is sometimes done, but companies are generally wary of the danger of double agents. The vice president of a large chemical company stated:

"When a man from a competitor comes to our company for a job . . . one of the things we look for in our interviews is: could this guy be a 'plant' assigned to get proprietary information from us?"

The practice of bribing a competitor's employees to pass on information is considered highly unethical by most managements. One flagrant case was reported in the survey by an oil company executive:

"When I was out of town last month, I was told by a local banker that one of their customers, in answer to, 'Why don't you hire a geologist?' said: 'Why should I? I have five company geologists from five different companies on a $500 a month part-time payroll. Any one of them would cost twice as much if I had him full time.' Actually, the guy had geologists from five different companies reporting to him on the activities of their companies."

Undercover secret-snatching

Outright stealing of documents, although not common, also occurs, the survey found. Hired investigators often get into rival company plants and offices by misrepresenting them-

- *Business espionage is on the rise, a new study of information-gathering methods reveals.*
- *New spying devices make wiretapping look as crude as listening at keyholes.*

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selves as reporters for the trade press or inquiring stockholders. And sometimes executives are shadowed on business trips and careful note is made of everyone they see.

Wiretapping is, therefore, only one of the several underhanded means sometimes used by unscrupulous business men in their search for trade secrets, but—say the researchers—its use seems to be increasing. One executive told them:

"Recently, we were involved in a competitive bid contract . . . At the opening of the bids, one of our competitors underbid us by only $200,000 and got the contract. It was highly unlikely in a contract of this nature that two bids would be so close. We were very suspicious . . . and hired an investigator who discovered that our telephones were being tapped at three different locations.

"We brought our competitor to court. We had information that he had authorized these taps. Furthermore, the company did not have sufficient financial data to justify its bids. It had tapped our lines, determined what our bid would be, and undercut us. The judge awarded us the contract."

The walls have ears

Leakage through wiretapping can, of course, be avoided by never discussing confidential information over the telephone. But communication technology has advanced so far that wiretapping may soon seem as crude as listening at keyholes.

For example, one investigator reported that he already has:

- a tiny microphone and transmitter, completely transistorized, that fits behind the cover plate of an electric outlet and picks up even a whisper in a room.
- a wire recorder that can be secreted in a briefcase and can pick up conversations for two hours after it is turned on. The briefcase can then be conveniently "forgotten" and picked up later.

And still more equipment is—or will be presently—available, though there is no evidence that it has yet been used for industrial spying. There is, for example, a microphone that will pick up a voice a quarter mile away. Most startling of all, one device—now in the experimental stage—will pick up conversations through closed windows and transmit them to the street below or to a building across the street.

ALICE SMITH

The truck with "boarding house reach" INCREASES WAREHOUSE CAPACITY . . . as much as 50%

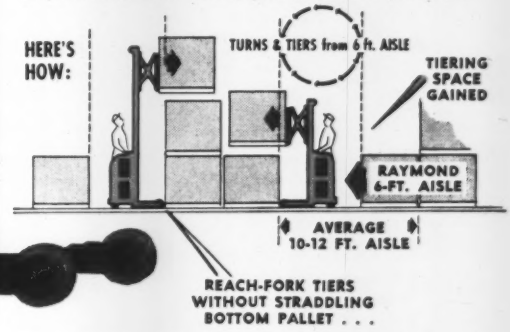
RAYMOND Reach-Fork TRADE MARK

3000 lb. CAPACITY

WHY BUILD OR LEASE additional storage when there's space to be had right in your present warehouse? A Raymond Reach-Fork . . . the truck with "boarding-house reach" . . . may increase your warehouse capacity up to 50%.

THE REACH-FORK eliminates wasteful 10 to 12-ft. aisles . . . permits you to tier in space-saving 6-ft.* aisles. No special racks or pallets required because it operates from the aisle, without straddling bottom pallet. Its forks extend to pick up or deposit your load . . . retract in seconds.

IDEAL FOR LOADING and unloading. Stacks pallets closely on racks, in truck trailers, boxcars, bulk storage areas. Safe on elevators and low-capacity floors. Raymond power unit is highly accessible, opens up like a book for ease in servicing. Reach-Fork available in 2,000 or 3,000 lb. capacities . . . may be leased or purchased over 1 to 3-year periods if you wish.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TURNS & TIERS from 6 ft. AISLE
TIERING SPACE GAINED
RAYMOND 6-FT. AISLE
AVERAGE 10-12 FT. AISLE
REACH-FORK TIERS WITHOUT STRADDLING BOTTOM PALLET . . .

MODEL E3RT Reach-Fork Electric Tiering Truck. Telescopic model, 3,000 lb. cap.

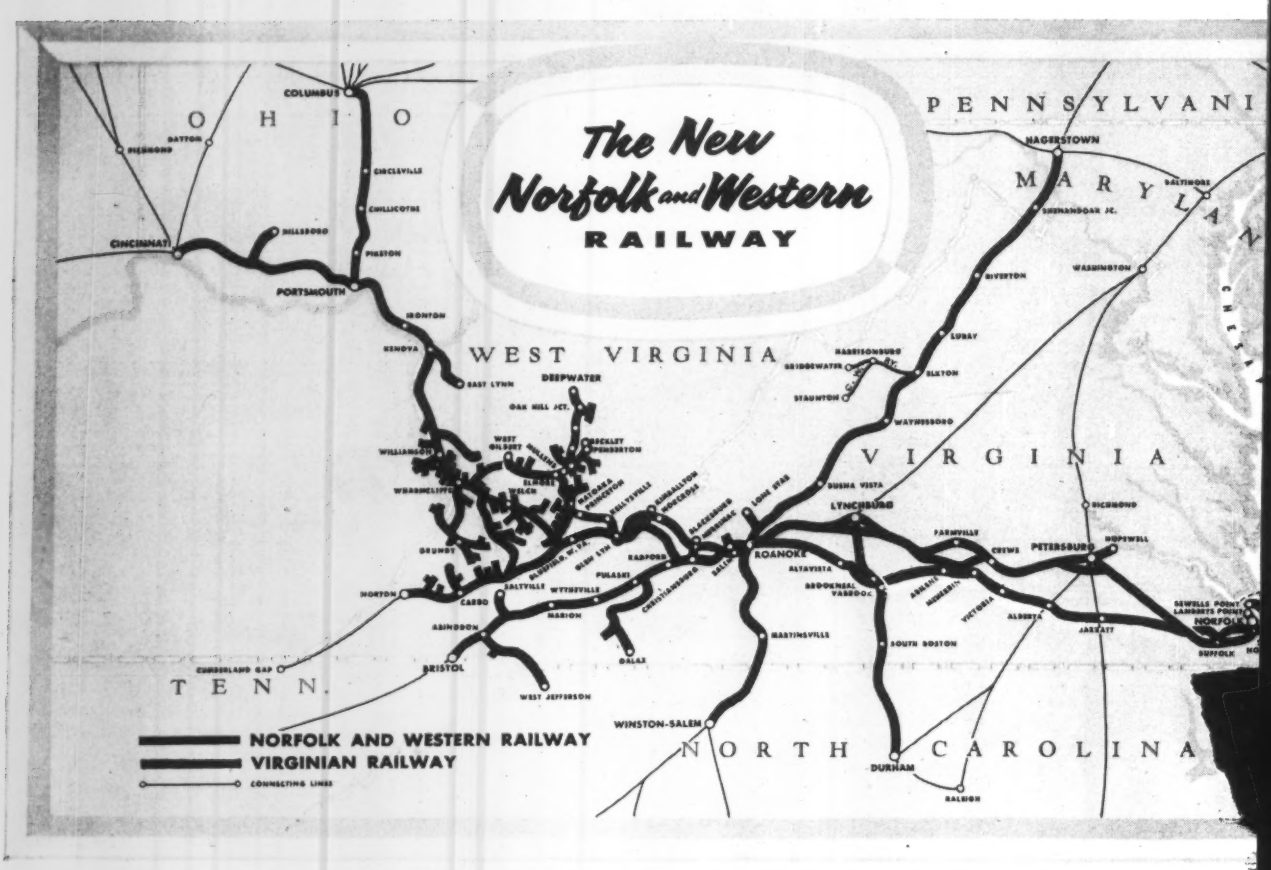
*For exact aisle width, ask Raymond representative to survey your operation.

THE RAYMOND CORPORATION
4631 Madison St., Greene, N.Y.

MAIL COUPON TODAY

Please send Bulletin on Raymond Reach-Fork. I am interested in:
- ☐ 2,000 lb. cap. Reach-Fork.
- ☐ 3,000 lb. cap. Reach-Fork.
- ☐ Have a representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____



this is today's Norfolk

The first merger of two major, independently operated railroads in modern times is a reality. The historic merger of the Virginian Railway into the Norfolk and Western Railway has been approved by the Interstate Commerce Commission.

The bigger, stronger and more efficient Norfolk and Western has two principal objectives. First, the railroad will provide faster and continuously improved service to industry and business along its lines and throughout the nation. Second, it will make available to industry a number of choice new plant sites. The territory of these sites will offer industry an abundance of low-cost power, ample industrial water, huge supplies of superior, all-purpose Bituminous coal, high quality limestone and a great variety of other raw materials; nearness to the big consuming markets of the Southeast, Middle West and North, and overseas markets through the modern ice-free Port of Norfolk on famed Hampton Roads, plus stable, home-rooted manpower, reasonable taxes and communities that are friendly to industry. With an enlarged and strengthened industrial development department, the railroad will go all out to attract new industries to the expanded territory of the six progressive states it serves.

The merger of the two railroads makes the Norfolk and Western one of the financially strongest and most efficiently operated trunk lines in the United States, with excellent connections to the four points of the compass. This strategically located rail system has 2,747 miles of road, 5,870

Norfolk

Two Great Railroads to Become One

and Western . . . On the Go!

miles of track . . . nearly a billion dollars in assets . . . 81,000 freight cars — more freight cars per mile of line than any other railroad in the United States 250 miles or more in length . . . the nation's newest and most modern fleet of diesel locomotives . . . up-to-date signalling and communications systems . . . huge Tidewater terminals and many other top-notch facilities.

Physical consummation of the two railroads with extensive improvements will get underway as soon as possible. The Norfolk and Western looks forward eagerly to taking full advantage of the bright opportunities in the dynamic years ahead.

Statement by Stuart T. Saunders, N&W President:

"The Interstate Commerce Commission's approval of the merger is a landmark decision which signals a new day in the progress and development of greater efficiency and better service by the combined railroads. It reflects a farsighted viewpoint on the part of the Commission and a sympathetic interest in solving one of the major problems which confront the railroad industry today — the elimination of duplicating and unneeded transportation facilities and services. The Norfolk and Western expresses sincere appreciation to those progressive industries and individuals, civic groups and other organizations whose wholehearted endorsement helped to make this historic merger possible. It is an invigorating challenge, and opens a new era for the new system. The bigger, stronger and more efficient Norfolk and Western is on the go. The railroad has the facilities, the know-how, the determination and vigor to meet the challenge — to do the job."

and Western Railway

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CAMBRIDGE METAL-MESH BELTS are the answer to the big problems you'll face in the competitive 60's—tighter operating costs, higher production and consistent quality.
Continuous movement of foods, metal parts, ceramics or chemicals on Cambridge Belts through processing operations speeds production and eliminates costly manual handling. Open mesh construction allows heat, cold or liquids to flow through the belt and around the product for thorough, uniform treatment. Superior belt design and manufacturing techniques mean longer life, fewer repairs, lower operating costs.
Belts can be made heatproof, coldproof or acidproof — in any mesh, weave, metal or alloy — with any side or surface attachments.
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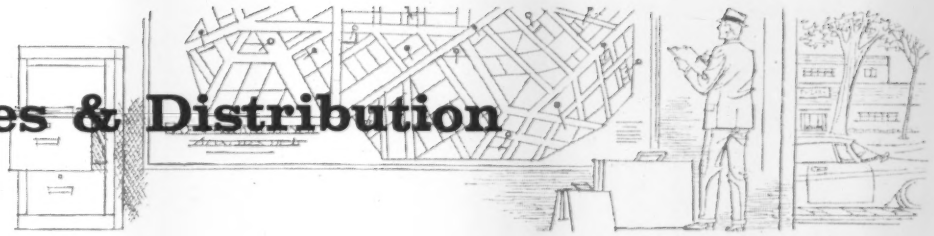

Package preference beats brand loyalty

Helicopters as a sales promotion aid

Salesmen test skill on company brass

Looks Make a Difference

Packaging is more important now than ever before in the consumer market (see DUN'S REVIEW, October 1959, page 66). But its importance has been seldom measured in precise terms.

Now, a new survey of 5,008 consumers made by Elmo Roper and Associates for the Continental Can Company reveals that packaging can be more important than retail store loyalty or even brand loyalty—both of which were the critical consumer allegiances in the past.

When asked about their preferences in beer packaging, 45 per cent of the respondents said they would switch stores rather than take their beer in a different package. Forty-two per cent would take it in bottles if it were not available in cans and vice versa.

If their favorite container were dropped by their brand, 42 per cent of those who prefer bottled beer would switch to cans. Among those who prefer canned beer, 40 per cent would change to another brand, while 42 per cent would be willing to accept the brew in bottles.

Says Roper: "Beauty may be only skin deep, but in these days of decreasing product differentiation, skin deep is often deep enough when digging for pay dirt."

Taking to the Skies

Increasingly, the workhorse of aviation—the helicopter—is being put to work in marketing and sales promotion. For instance, at the opening of a New Jersey shopping center, discount coupons were dropped from a copter to waiting crowds below. And a drug company attracted considerable attention at a conclave of doctors by offering free sightseeing flights.

But some companies are discovering even more basic day-to-day uses in marketing for the helicopter. For example, the Blakely Oil Company which operates 40 gasoline service stations in the Phoenix, Ariz., area has found a helicopter useful in personnel supervision and traffic studies, as well as in sales promotion and public relations.

Almost any day of the week, Presi-

New retail wrinkle: point-of-purchase production

As shoppers crowd about, plastic products are manufactured in a retail store for the first time. To help increase consumer acceptance of plastics, the Polymer Chemicals Division of W. R. Grace & Company, took an injection molding machine to Macy's basement to show shoppers how bowls of high density polyethylene are made. The sales of the bowls exceeded all expectations.

dent A. Monroe Blakely may be found hopping from one service station to another in his Bell Ranger helicopter. He says that nothing keeps a service station going so smoothly as the knowledge that the boss may drop out of the sky at any moment.

By studying his market from the air, Blakely has been able to pinpoint his new stations in just the spots they are needed. Before opening a new station, he studies traffic patterns in the area at different times of the day and on different days of the week. From this vantage point, it is possible to measure the pattern of traffic as well as the volume. A particular pattern—such as during rush hours—may prevent a substantial volume from ever reaching a service station.

The company also uses the helicopter to render service in emergencies—for instance, to fly tires out to stranded trucks.

The company stays in the public eye by making its helicopter available for various civic celebrations and functions. It has been used by city planners in survey work and by a civic association to deliver gifts to isolated mining towns at Christmas-time.

Since the company is operating in a field largely dominated by giants, Blakely feels that the helicopter has

COPTER CONTROL: *Sales at a string of 40 service stations in and around Phoenix, Ariz., are being kept high by the use of a*

in ORDER-FILLING...

no other type of container handles the load so surely . . . or so gently!

Kennett Receptacles are unsurpassed for safe, quiet, convenient order-filling of drugs, electrical parts, glassware, garments and all fragile products. They're made of National Vulcanized Fibre, a material amazingly light, tough, smooth, durable.

Here are the time-savers, money-savers and product-savers in order-filling operations: Kennett Receptacles! They can take it in any wholesale house, store, or materials handling system . . . durable enough to handle your toughest load, gentle enough to protect delicate fragiles.

Kennett Receptacles are made of National Vulcanized Fibre . . . a hard, chemically-made fibre, definitely *not* paper. They're stronger than wood, twice as light as aluminum, smooth as china and *tough*, with a resiliency that absorbs blows from rough handling—reducing loss from breakage. National Vulcanized Fibre cannot warp, crush, blister, crack, peel, splinter, rust, corrode. Contents in Kennett Receptacles cannot be snagged, ripped, soiled or otherwise mutilated by the container.

Kennett makes tote boxes, trays, barrels, roving cans, cases and multi-purpose trucks in a wide variety of types and sizes—and even in a fire-resistant vulcanized fibre. Kennett can also make receptacles to your exact requirements. For the complete Kennett story of faster, safer product handling, write for our six-page brochure. Address Dept. I-11.

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been an effective way to gain corporate recognition.

Pushing the Brand

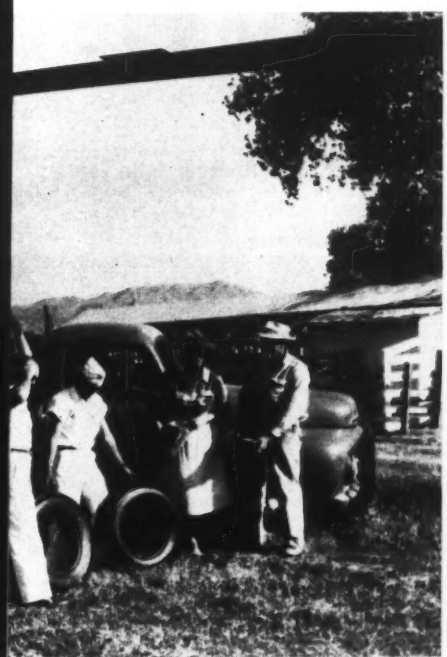
Switch selling has been a constant problem for appliance manufacturers in recent years. Despite heavy appropriations for advertising and point-of-purchase materials, manufacturers find that many sales are lost when the sales clerk switches a customer from the brand he asks for to another.

The importance of this problem was pointed up last month when Alex Lewyt, the president of the Lewyt Corp., New York vacuum cleaner manufacturer, began visiting stores in the metropolitan New York area, posing as a shopper. Every salesman who suggested a Lewyt cleaner to Alex Lewyt received a $100 U.S. savings bond on the spot.

Practice Selling Pays Off

To get their selling forces in shape for the big markets ahead, many companies are seeking new variations in sales training. The Baltimore Business Forms Company, Baltimore, Md., has come up with a twist that is bringing noticeable results.

The technique of role playing has been used for several years by many



helicopter to manage the operation, study traffic patterns and market the products (see story).

Patrol Efficiently and Alertly

Deter Crimes

A Burns guard can do all this:

Administer First Aid

Keep Daily Log

and save you 20%, too

Prevent Fires

Supervise Time Clocks

Every Burns Guard is thoroughly trained in first aid, fire prevention, apprehension of intruders and prevention of crimes, maintaining an accurate log, supervising time clocks, directing parking lot traffic... as well as the best basic patrolling procedures.

Yet, with all his versatility, a Burns Guard saves you upwards of 20%. The reason: you don't pay for uniforms, sidearms, overtime, social security, vacations, insurance costs or any fringe benefits. Burns pays for all of this. You are billed for a complete package – which means the number of trained guards you need for any occasion or season, plus 'round-the-clock supervision.

Let us show *you* how Burns Guards can improve your security system... and help you save, too. Phone, write or wire and a Burns Security Specialist will be at your service. No obligation. Meanwhile, why not send for our informative brochure, "It takes more than fences."

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. . . More than 230 leading business fleets in every field across the nation lease over 10,000 vehicles from Wheels. Wheels provides national service at lowest cost.

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WHEELS HAS DISTRIBUTION FACILITIES

. . . Wheels has a coast-to-coast network of over 300 delivery centers — for prompt efficient delivery of Chevrolets or other fine cars to your men at point of use.

Call collect now—
Ambassador 2-0138,
or write for
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6200 NORTH WESTERN AVENUE • CHICAGO 45, ILLINOIS

FAD FANS SALES: *The fast-growing fad of karting is opening new markets for many manufacturers. Thousands of youngsters (and grown-ups) from coast to coast are driving the miniature racers, which are powered by lawnmower engines and roll on pneumatic tires. Finished karts or do-it-yourself kits are available from 300 manufacturers. The Goodyear Tire & Rubber Company reports it's hard pressed to meet the demand for small tires.*

companies, but this manufacturer has varied the technique by inducing various executives outside the sales department to take on the roles of various types of buyers.

The trainee salesmen call on the company's purchasing agent, advertising manager, and other department heads who play the roles of the know-it-all buyer, the indifferent buyer, the price-conscious buyer, and the man who gives his business only to close friends. In addition to putting the trainees on their mettle, the program also succeeds in bringing non-sales executives an awareness of various selling problems.

At a luncheon following the meeting, each trainee reads a report on each "call," and role-playing executives offer suggestions. —T.K.

BOWLER BRIGADE: *Derbies give the 500 factory and distributor salesmen of the Norge Division of the Borg-Warner Corp. a distinction and an effective conversational gambit which is boosting sales. To attract attention to the salesmen, one large distributor is offering retail dealers a prize of $10 for every salesman caught without his gray derby.*

WORKERS' FEET STAY *Happy** ALL DAY LONG IN

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SAFEty SHOES

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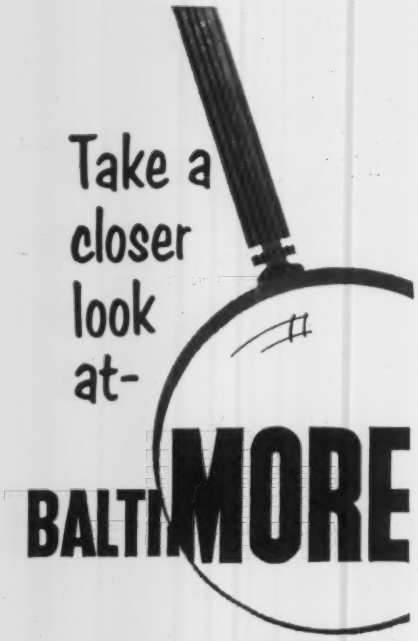

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EXECUTIVE BOOKSHELF

Brief Reviews of New Business Books

The Will to Succeed

MEN AT THE TOP *by Osborn Elliott. Harper & Brothers, 49 East 33rd St., New York 16, 246 pages, $3.95.*

Some outmoded stereotypes are smashed in this journalistic study of the lives and work of 300 business leaders, but striking similarities emerge. Boss' son or immigrant-made-good, today's top executive, the author finds, possesses a unique combination of drive, energy, and thirst for achievement.

Statute of Reform

THE LABOR REFORM LAW. *The Bureau of National Affairs, Inc., 1231 24th St., N.W., Washington 7, D.C., 496 pages, $8.50.*

The text of the new labor law, plus a legislative history and a section-by-section analysis of what it means in a practical sense for employers, unions, and employees.

Beginning to End Product

MANAGING THE MATERIALS FUNCTION: TOOLS, TECHNIQUES, AND COMPANY PRACTICES. *American Management Association, Inc., 1515 Broadway, New York 36, 131 pages, $3.75.*

Experienced materials managers discuss the new concept of integrated materials management and the latest devices and techniques for materials planning and control.

In Pursuit of Trade

MERCHANTS OF PEACE: THE HISTORY OF THE INTERNATIONAL CHAMBER OF COMMERCE *by George L. Ridgeway. Little, Brown and Company, 34 Beacon St., Boston 6, 291 pages, $4.50.*

An updated accounting of the efforts of an international organization of private business men to promote practical programs for expansion of world trade and the reduction of economic barriers.

The Case Against Keynes

THE FAILURE OF THE "NEW ECONOMICS" *by Henry Hazlitt. D. Van Nostrand Company, Inc., 120 Alexander St., Princeton, N.J., 458 pages, $7.50.*

In his lively treatise, Hazlitt categorically refutes the basic tenets of the Keynesian doctrine and explores the historical weaknesses of related fiscal policies—deficit spending, full employment, and public works.

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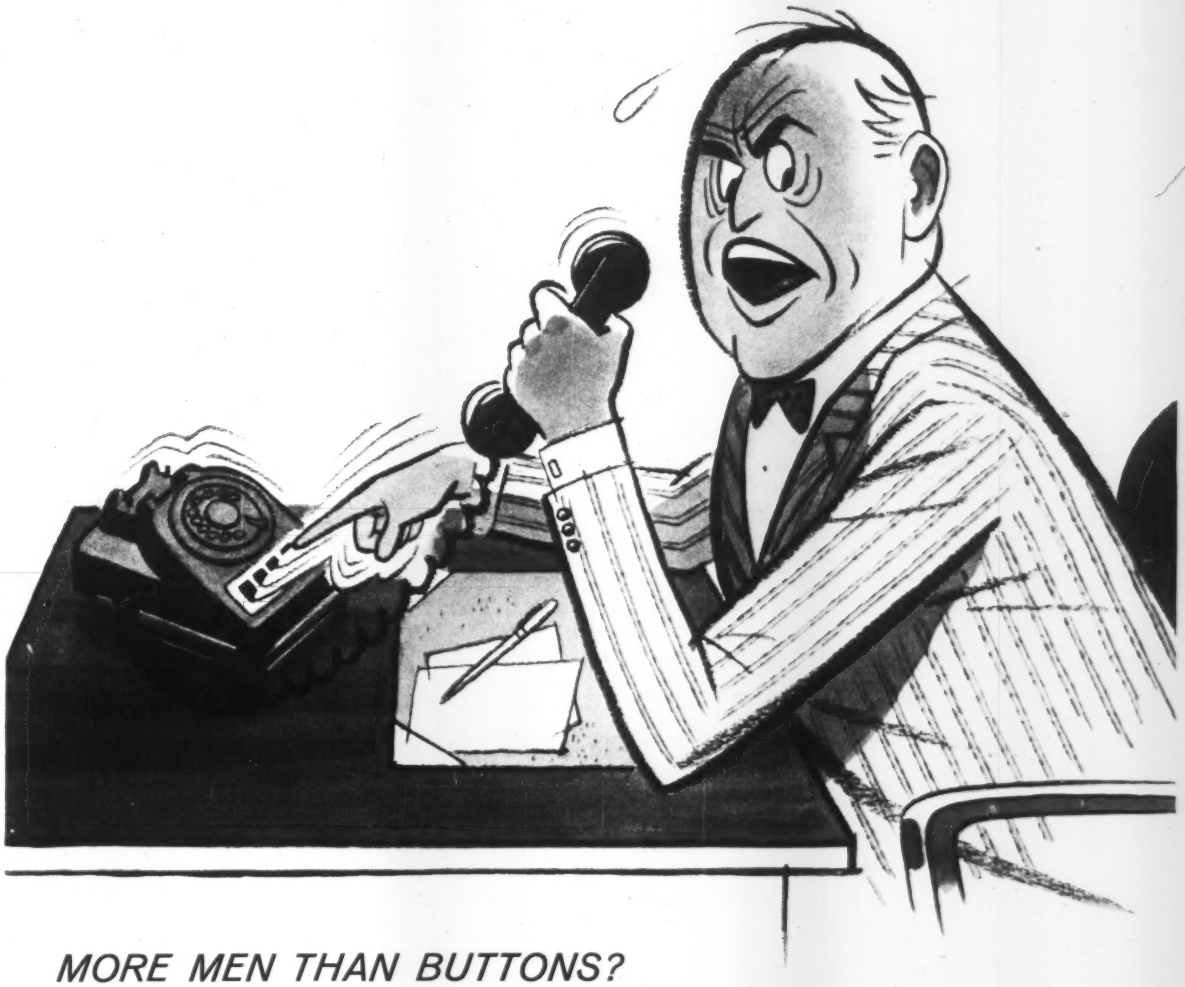

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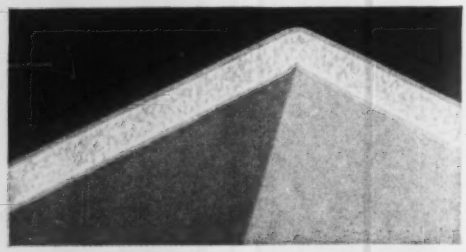
It's the SECOND Telephone that marks the efficient executive!

FRAGILE—HANDLE WITH ST. REGIS CARE

How delicate is a flower?
How flammable is nitric acid?

Questions like these can lead research men to remarkable new concepts in packaging. For example: St. Regis' Product Development Engineers and Monsanto Chemical Company engineers have created a new light-weight protective material called *Fome-Cor*®*.



Enlarged view of box corner shows "sandwich" construction

Fome-Cor is really a "sandwich" of insulating, shock-absorbent foam plastic between two layers of water-resistant St. Regis kraft linerboard. These very special properties enable St. Regis cartons made of Fome-Cor to keep flowers, fruits and other perishables fresh and moist throughout shipping. But that's only one use; now Fome-Cor has scored an even greater industry "first".

For the first time, a container made with *paper* has been approved for shipping glass-packed reagent nitric acid. Conventional corrugated paperboard will ignite if the acid comes in contact with it; Fome-Cor will not. The rugged Fome-Cor carton also provides more protection than containers previously used. Lighter, less bulky, Fome-Cor saves shipping costs, too. These are important developments for industry's many users of nitric acid and other hard-to-handle products.

And you can count on continuing improvements in packaging—as well as in plastics, paper and paper products—from St. Regis, a company that builds its future on service.

*Trademark of Fome-Cor Corporation, jointly owned by St. Regis Paper Company and Monsanto Chemical Company.

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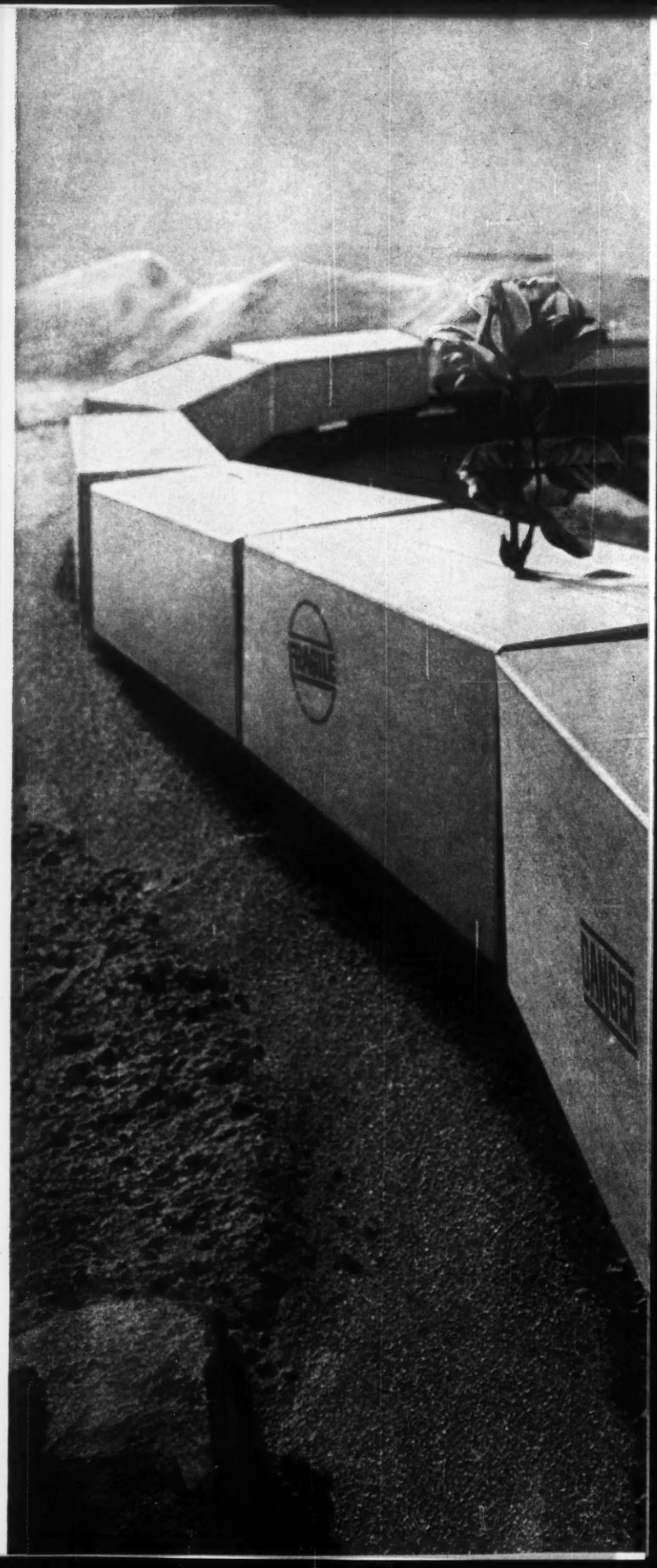

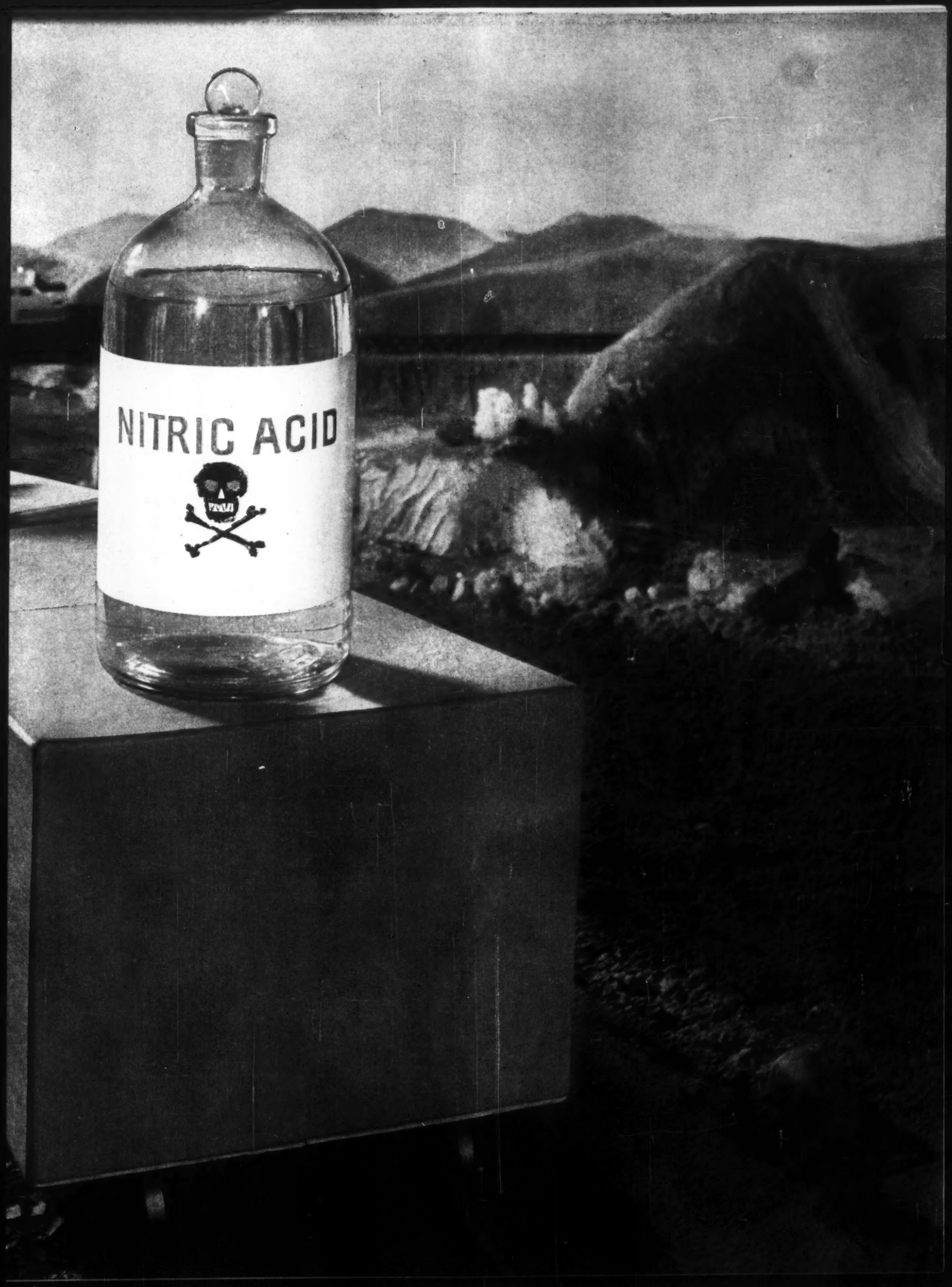
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International Markets

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- ▶ *Efforts to bolster sagging U.S. exports revive plans for underwriting export credit risks.*
- ▶ *To help U.S. exporters meet the easier terms of overseas competitors, the Exim Bank offers more cash on credit lines.*
- ▶ *European Economic Community prospers, plans common currency, ponders admission of new members.*

Insurance Plan Proposed

Export credit insurance, a source of edgy controversy in Government and export trade conferences in recent years, may be headed for the 1960 legislative hopper. Against a backdrop of slumping export sales, the program for underwriting export credit risks becomes more palatable not only to economy-minded legislators but also to the U.S. export fraternity, which until now has shied away from endorsing a full-blown overseas credit insurance plan.

This, at least, is the hope of the National Coordination Committee on Export Credit Guarantees being organized by the International Section of the New York Board of Trade, guided by Francis X. Scafuro, vice president of the Bank of America.

The tentative blueprint developed by Mr. Scafuro for the committee is based upon creation of a quasi-governmental structure, with emphasis on private funds for total capital requirements and a management group drawn from the ranks of private (export) industry, insurance, and finance. Here are the highlights of the proposal:

- *Proposed name:* American Export Credit Guarantee Corp.
- *Objective:* To provide U.S. international traders and financing institutions with facilities for obtaining guarantees against all types of credit risks inherent in export sales—commercial, economic, political (including exchange transfers), and catastrophe.
- *Organization:* An insurance company, functioning on commercial lines, would issue to U.S. exporters and others contracts of guarantee to protect their receivables—up to an agreed-upon percentage—against losses from commercial and non-commercial hazards, including prolonged delays in exchange transfers. Premium rates and contract conditions would be such as to make the operation self-sustaining in the immediate future, with income sufficient to cover losses and expenses and, eventually, a fair return on the invested capital. Guarantees would be assignable or would be issued directly to banks and other institutions financing the insured transactions.
- *Capitalization:* An initial paid-in capital and surplus of $5.5 million to support aggregate guarantee contracts outstanding of some $80 million. As the corporation's volume required larger underwriting capacity, additional subscribed capital would be paid in. It is proposed that capital be subscribed by exporters, casualty underwriters, bank affiliates, and other international trade interests.
- *U.S. Treasury support:* Because coverage of political risks, such as prolonged exchange transfers and other hazards or delays resulting from governmental action, would be difficult for any private underwriter to assume, the proposal suggests that specific Federal legislation be enacted to grant the corporation a Federal charter and to empower it to borrow from the U.S. Treasury (within specified limits) adequate amounts to pay claims arising from political risks—but only in the event that such claims exceeded the loss reserves established to pay such claims from the corporation's premium and other income. Claims arising from commercial risks would be paid entirely by the corporation and its commercial reinsurers without Government assistance.
- *Eligibility of goods payment terms:* U.S. goods and services of all types would be eligible for coverage, provided that (1) the commercial credit risk conformed in all respects to normal management standards, and (2) payment terms were consistent with the type of product sold, the custom of the industry and the market, and other pertinent factors, such as the exchange situation and the economic and political conditions in the country of destination at the time of policy issuance.
- *Management:* The corporation would be managed by qualified financial and insurance personnel experienced in international trade. Its board of directors would include representa-

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tives of export industry, commerce, finance, insurance, and one member of the Treasury Department. Government participation in management would be limited to veto power over the corporation's exposure limits by country, length of credit terms guaranteed, and broad category of goods insured.

The U.S. Government would, in effect, be concerned only with control of the maximum amount of exposure arising from coverage of those political and other non-commercial risks for which the U.S. Treasury granted standby insurance. Since the U.S. Government would not be involved directly in writing specific contract conditions or in operating the facility, political repercussions from debtor countries would be avoided.

However, it would be necessary for the corporation management to have adequate access to Government sources of economic and political data vital to formulation of sound guarantee decisions, especially in underwriting political risks. This might be a sensitive point, but it could be eased by having a liaison officer acting for the Government analyze the political risk in summary form, without spelling out details that might fall within the area of classified data.

So much for the prospectus. The plan calls for immediate action in building a pilot company with a total preliminary capital subscription of $100,000 from private industry, to underscore dramatically the lively interest in the guarantees program. Some five years ago, a similar project was proposed to the export community, but it languished because of indifference and dissension over details. With one eye on the minus signs in export statistics, however, both legislators and exporters now may be more favorably disposed to the plan, especially when they reflect that a growing portion of world exports is being lost to overseas competitors equipped with export credit insurance systems.

New Rx for Export Credit

A beefed up Export Credits Program is another in a series of moves made by the Government to build up sickly U.S. exports. The latest revisions in the program are aimed at providing a greater supply of credit through the Export-Import Bank of Washington, which for the past five years has been offering credit assistance to U.S. ex-

porters through portion-purchases of its export commercial paper on a "without recourse" basis. Here's how the new plan works:

- As in the past, the U.S. exporter must arrange for the overseas customers to make a down payment of at least 20 per cent of the total sale.
- The Exim Bank will purchase or guarantee payment of up to 85 per cent of the *financed* portion of the contract (previous rate was 75 per cent), releasing, in effect, 68 per cent of the total sale in immediate cash to the exporter. This is an 8 per cent improvement over the original discount formula.
- Under the new formula, the U.S. exporter's share in credit committed is reduced to 12 per cent (instead of 20 per cent), since he collects 20 per cent in prepayment from the customer and 68 per cent from the Exim Bank. This, it is thought, will help the exporter expand his liquid working capital and generate more overseas sales power. And he will have more trading latitude to meet, to some degree, the easier terms offered abroad by foreign competitors.

Another aspect of the credit program also has been slightly liberalized. To protect exporters in areas where their customers have difficulty in getting dollars on due date, guarantees on dollar exchange transfers have been upped by 5 per cent to 90 per cent of the credit portion of contracts.

At fiscal year-end June 30, 1959, exporter credit lines of the Exim Bank of Washington were authorized and available to 132 U.S. companies, with revolving credit limitations totaling $177 million, ranging from a modest $45,000 to a peak $10 million. Most commitments were in six-figure amounts. Net approved transactions totaled $32.6 million; outstanding balances were $11.4 million. Balances available for future transactions tallied $154 million, a comparatively modest commitment when related to annual capital goods exports that account for $3.6 billion or slightly more than one in every five dollars of U.S. exports today.

Encouraging as these changes are, the Export Credit Program continues to be fenced in and provides only modest relief where massive remedies are indicated. Here are the things exporters grumble about:

- Credit facilities are confined to *capital goods* export transactions.

continued on page 100

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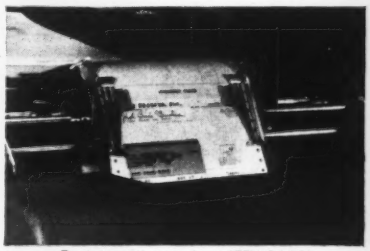

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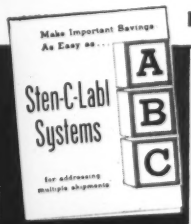

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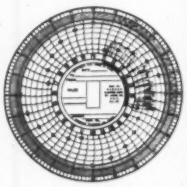

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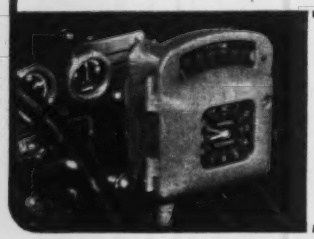

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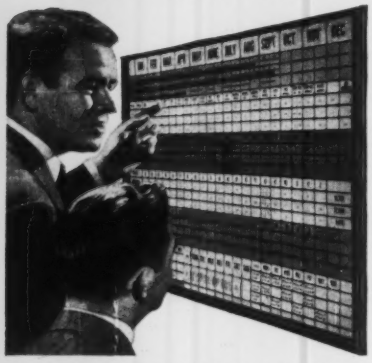

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- Terms of trade are not supposed to exceed those customary in commercial practice for the type of equipment involved. This feature was left untouched in the recent revisions, even though more and more complaints are voiced among the export fraternity that some European governments, under their credit insurance programs, have been permitting—even encouraging—use of more liberal terms by their exporters to stimulate global sales.
- Most Western European governments figuratively support—literally subsidize—export drives with full-blown export credit insurance programs. They make available short-, medium-, and long-term credits at low cost and in considerable amounts. For example, the Exports Credit Guarantee Department, an agency of the United Kingdom, was underwriting at least 15 per cent of Britain's total exports in recent years. But then, most of these countries have an export actuarial background of at least 25 years, lean heavily on exports for their economic existence, and are more sophisticated in accepting big risks in underwriting export credits.

Virtually all the Western European countries, Canada, Japan, and some smaller export countries such as Australia and Israel have recognized the importance of export credit insurance as a tool for trade. Chances are that if our exports continue to languish, you will hear more about this device in the months ahead and see more measures taken to expand its use in the U.S. export trade.

Common Market Thriving

The European Economic Community is flourishing in its first year of operation, according to the commission heading up the six-nation combine. First-half 1959 saw an economic upturn in all member nations, with most substantial gains reported in the iron and steel, textiles, garments, and leather industries — all previously hard hit in the 1958 recession.

One major industry still in the doldrums is coal mining, where stocks continue to pile up. But this surplus

may be sopped up by the sharp upturn in industrial production forecast for the balance of the year. Output in the fourth quarter is expected to better 1958 production levels by 6.5 to 7.5 per cent.

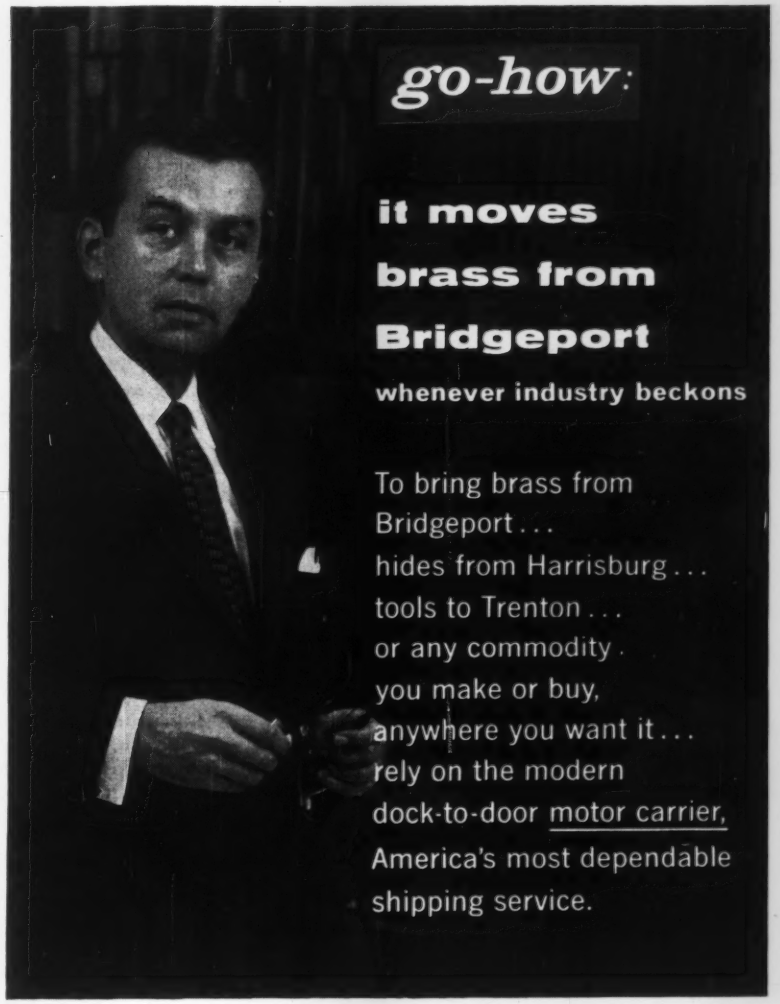
The Common Market may soon have a common currency unit, the Euronit, welding the economies closer together. The monetary unit would be based on a special common market fund to be created in conjunction with the existing six-nation overseas investment fund if present plans materialize.

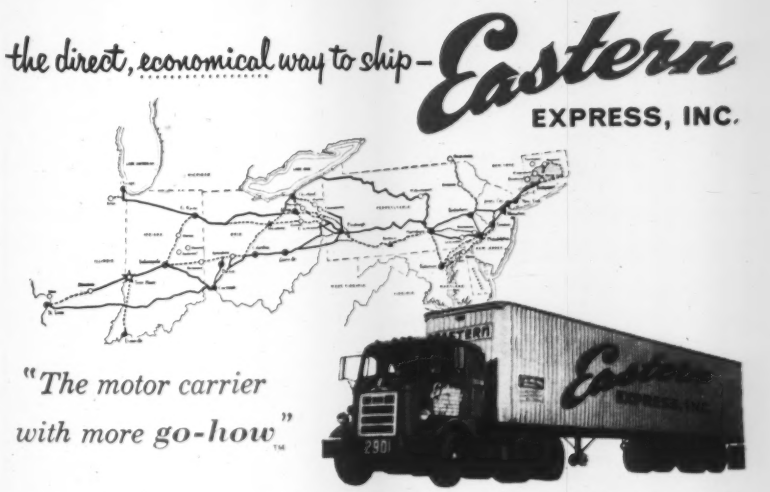
But problems also exist. Two of the outer fringe countries, Turkey and Greece, now want to align themselves with the Common Market, but this is easier said than done. For one thing, amendments or additions to the Rome Treaty, the charter for the EEC, may develop some tough and jarring legalistic wranglings at a time when the Common Market foundation is beginning to jell. Superimposing two economically weak elements on a freshly completed framework may create stresses that could weaken the whole structure.

Although the Greek and Turkish economies have improved considerably in recent years, neither is yet sufficiently advanced to engage in the free interplay of trade at which the Common Market program is aimed. Both have been hit hard by the exclusive features of the EEC and the Little Free Trade Area (see DUN'S REVIEW, August 1959, page 64). It's understandable that the charter members are not happy about these requests for admission and are worried about the immediate and long-range repercussions of letting down the bars now to non-members.

Another vexing problem is finding credit and capital to support expanding industrial needs. There are unsubstantiated rumors that EEC has had no response to its request to float a bond issue in Switzerland. As a member in good standing in the Little Free Trade Area, Switzerland could exert a quick *quid pro quo,* swapping access to its money channels for favorable consideration of a working arrangement between the Big Six (EEC) and the Little Seven (Little Free Trade Area) market combines.

Complex as these new problems are, the EEC can take comfort in the fact that they stem from pressures to expand and not so much from a struggle to resolve internal points of dis-

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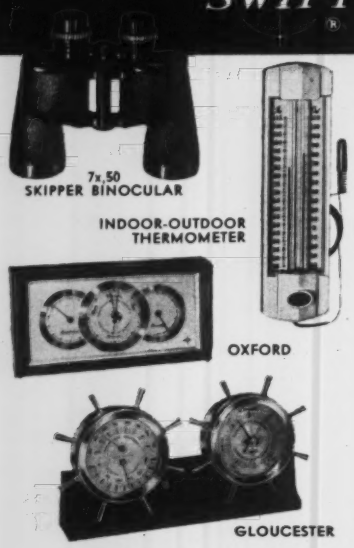

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sension. On balance, the Common Market program is making headway.

New Market by the Sea

That cradle of civilization, the Mediterranean area, is due for an economic face-lifting under the aegis of a group of United Nations agencies headed by the Food and Agricultural Organization. The area embraces all countries touching on the Mediterranean, as well as Portugal, Jordan, and Iraq.

Late this fall, the several agencies intend to propose a long-range operation to repair the economic ravages of time, especially in the agronomy of the region. Here are some of the corrective measures proposed:

- to expand public investment programs, particularly for roads and irrigation systems;
- to increase public construction and housing;
- to undertake reforestation to reclaim land and check erosion;
- to introduce mixed cereal and live stock cultivation in an effort to diversify farming;
- to provide educational facilities for training more technicians, who, in turn, would help develop the program;
- to introduce dry farming in regions with insufficient rainfall;
- to shift population clusters from limited-sustenance forest lands to more fertile lowlands.

In terms of statistical projections to the year 1975, it can be seen that the stakes are big:

The population: 245 million, a 70 million increase over 1956.

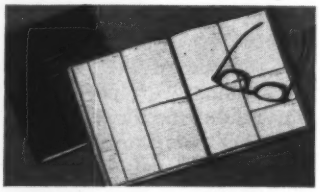
The labor force: 30 million more jobs are needed. Now, only 60 per cent of available labor is employed.

The output: In the Middle East and North Africa, the target is a combined output of $29 billion based upon a 5.5 per cent annual rate of increase. These projections would increase agricultural production twofold and output of goods and services threefold against 1956 levels. In the South European group of Mediterranean countries, a jump in the gross domestic product to $69 billion is envisaged, based on a continuous growth of 5 per cent annually.

The investments: It's expected investments in North Africa and Middle East will total $5.5 billion, compared with $1.4 billion invested in 1958.

All these factors add up to the formation of a new mass market for U.S. exports and investments. END

SATURDAY REVIEW
Executive Desk Diary



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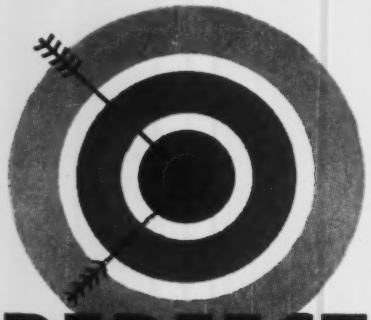

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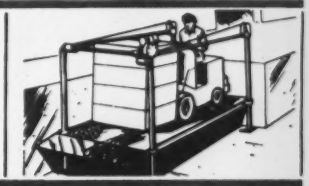

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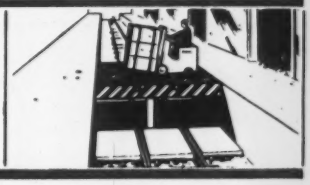

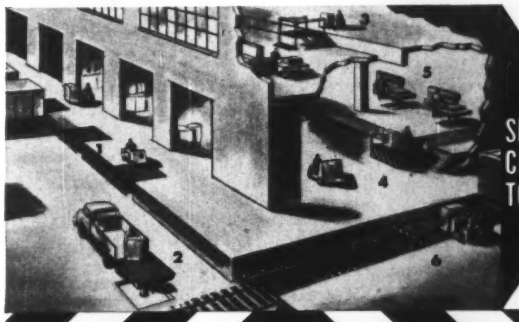

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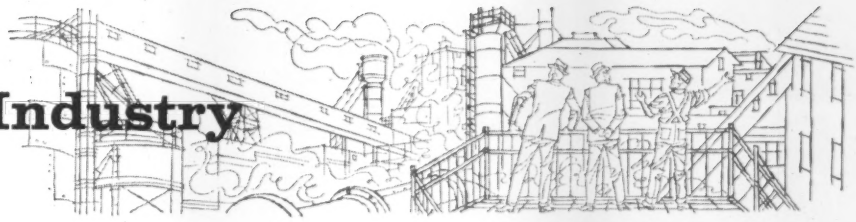
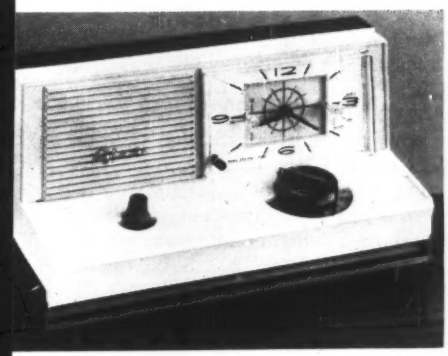
Inside Industry



- *"Cold light" goes commercial*
- *Truckers switch to liquefied petroleum gas*
- *Boom ahead for epoxies*



NITE LITE: *The clock face in this Sylvania clock radio is lighted by electroluminescence. Other consumer applications are auto dashboards, night safety lights, and safety stripping along stairs.*

Products that Glow

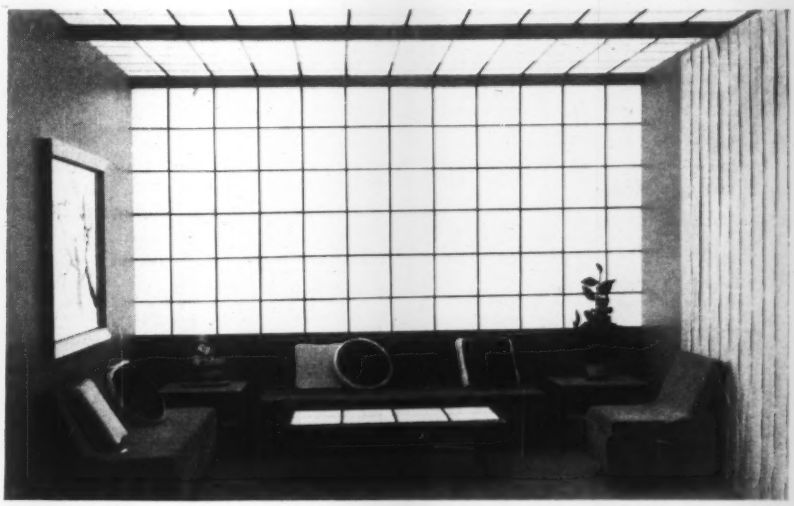
"Cold light," more properly known as electroluminescence, is filtering out of the laboratory into commercial development. Consumers can now buy cars and clock radios with electroluminescent lamps; industry can buy various electroluminescent control panel displays, and the military is interested in new equipment, dependent on electroluminescence, that can light up the darkness.

Light amplifiers based on electroluminescence also make x-ray photographs easier to read—important in diagnosing defects in equipment as well as in humans.

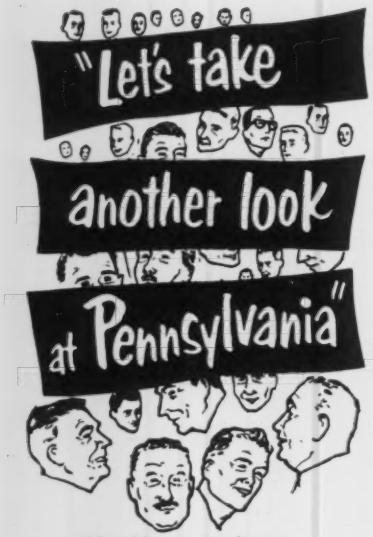
Electroluminescence was first discovered a quarter century ago in France by George Destriau. Professor Destriau, now a consultant to Westinghouse Electric Corp., spread a thin layer of zinc sulphide on a sheet of glass. The light given off when a current was applied to the film was so faint it could hardly be seen. Slowly over the years, the refinement of materials has raised the light output.

Sylvania Electric Products, Inc., a pioneer in the field, is supplying EL lights for the dashboards of Chrysler cars, a night safety light and is also making a clock radio with an EL lighted dial (see photo). Westinghouse makes alpha-numerical dis-

EASY TO READ: *The letters and numbers in this display board are produced by electroluminescence. Alpha-numerical displays for processing plant control panels and computers are one of the leading industrial applications of this principle.*



"TURN ON THE WINDOWS": *A room of tomorrow lighted by huge electroluminescent lights that also function as windows. Westinghouse engineers also created the coffee table with an EL top that glows. However, EL lights are still too costly for general lighting.*



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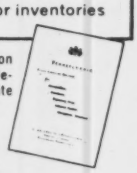

Pennsylvania Department of Commerce

South Office Building
559 State Street, Harrisburg, Pa.
Phone: CEdar 4-2912

plays for industry, and a night light which sells for a little over a dollar.

Radio Corporation of America, which in 1954 first developed a light amplifier to which EL materials are essential, sells electroluminescent panels in six colors. Other companies in the field are General Electric Company, Tung-Sol Electric, Inc., and Hughes Aircraft Company. The last company wants to apply EL to aircraft instrument panels and other control situations.

Cautious is the word for GE's approach to electroluminescence. Although GE has been studying EL for years and holds many patents in the field, it still thinks general lighting by EL is many years away. It has been concentrating on flexible EL sources that can be shaped to special needs. Most of the other EL sources are mounted in rigid plastic, glass, or ceramics. GE engineers believe that the square fluorescent light (see photo) is a formidable competitor to EL for general lighting.

There are still some serious technical problems to be solved before EL lighting can be made practical. The first is economics. Today, large rooms are lighted on an experimental basis by EL panels, but the cost is prohibitive.

EL lights are also very sensitive to moisture. Good, cheap sealing techniques should solve this problem. Low efficiency is another problem. Theoretically, EL lights have the ability to work much more efficiently than fluorescent lights, which convert 25 per cent of the electric input into light, but present EL lamps are still far below this level.

On the plus side, EL lamps offer many advantages. Although they deteriorate slowly over a long life span, they are not subject to sudden failures, as are incandescent bulbs. They're easy on the eyes, since they are an area rather than a point source of light. Finally, they can be molded into odd sizes and shapes, and because they're so thin, they are especially adaptable to today's low-ceilinged rooms.

NOT SO SQUARE: *General Electric lighting experts claim that the "square" fluorescent light shown above will hit the market way ahead of electroluminescent lighting.*

Cutting Costs with LPG

A number of manufacturers and distributors throughout the country have discovered that converting in-plant (and some highway) trucks to liquefied petroleum gas can produce important savings. For example, the Douglas Aircraft Company, Santa Monica, Calif., has cut total operation costs on its large fleet of industrial trucks by nearly $100 a year per vehicle with LPG.

Part of the savings is due to lower fuel costs. LPG, which can be propane or butane or a mixture of the two, is less expensive than gasoline in all parts of the country except the heavily populated Northeast. However, the significant savings with LPG are in vehicle maintenance. Here are the reasons:

- Since LPG is a gas to start with, there is no need for a carburetor. In addition, LPG doesn't "wash" the cylinder walls, so the lubricating oil in the crankcase is never diluted.
- It burns clean, so no carbon is deposited. This means wear is sharply reduced, and sparkplugs last for years.
- Since LPG is under pressure to begin with, it doesn't require a fuel pump—a part that must be replaced regularly in gasoline engines.
- Finally, LPG doesn't give off smelly fumes. This is one of the main reasons why the city of Chicago converted all its buses to LPG.

Although its use is booming, many companies still have not converted to LPG. Their principal reasons are fear of explosion, local regulations, high cost of conversion, and, sometimes, increased insurance rates. Other drawbacks that apply outside the plant area are the difficulty of getting a trade-in on an LPG car and the fact that there are only 4,000 stations to service LPG vehicles, as compared with 180,000 gas stations.

continued on page 107

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1. The names and addresses of the publisher, editor, managing editor, and business manager are: Publishing Director, Alex J. Dughi, Jr. 99 Church Street, New York 8, N.Y.; Editor, A. M. Sullivan, 99 Church Street, New York 8, N.Y.; Executive Editor, M. J. Dooher, 99 Church Street, New York 8, N.Y.; Business Manager, Viola Anderson, 99 Church Street, New York 8, N.Y.

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Sworn to and subscribed before me this 8th day of September, 1959. LORETTO A. HANNY (Seal) (My commission expires March 30, 1960).

Although there is a certain accident potential in LPG, as in any fuel, Russell Hastings, chief engineer of the Industrial Truck Division, Clark Equipment Company, Battle Creek, Mich., claims that it is no more dangerous than gasoline when handled correctly.

Conversion of a gasoline truck to LPG fuel costs from around $100 to $200. However, this expense is usually recouped in the first year through reduced maintenance.

Although the advantages of LPG are greatest when applied in a limited plant area, the conversion of company cars and trucks is also a possibility. One company has run a huge truck over a million miles on LPG with amazingly low maintenance costs, and one Southern city runs all its municipal cars on LPG at great savings.

Epoxy Boom

The amount of epoxy resin used in industry should rise from the present 37 million pounds to 90 million pounds in 1963, according to a survey of 1,000 companies that manufacture or use epoxy resins. The 200-page study of the many ways industry applies this versatile synthetic was prepared by a group of Harvard Business School graduates and is available for $18.50 from Materials Research, Box 363, Cambridge 39, Mass. Epoxy is used in adhesives, paints, as a "potting" compound for electronic equipment, and to make plastic boats and truck bodies. —M. M.

MAINTENANCE COSTS WERE CUT IN HALF *on six fork trucks converted to liquefied petroleum gas by Korhumel Steel and Aluminum Company, Evanston, Ill. The operating characteristics of LPG result in reduced engine wear (see story).*

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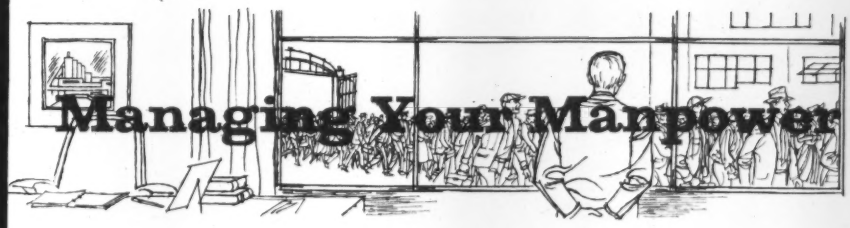

Managing Your Manpower

LAWRENCE STESSIN

»*Every year, 50,000 labor squabbles go to arbitration—and most have nothing to do with wages and hours.*

»*Can a worker's marital problems be cause for discharge? An arbitrator had to decide.*

»*Labor tips and trends: union membership drops to postwar low, but labor leaders see dip as temporary.*

EARLY one evening, a man staggered into a factory, pulled a gun, and in abusive language threatened to shoot one of the employees, with whom he had been feuding for months. An alert supervisor disarmed Mr. X before he could do any harm and escorted him out of the plant. The next morning, the gun-toting hombre of the previous evening, now sober and repentant, punched in his time card with steady hand and took his place at the workbench. He was promptly fired for his unbecoming behavior of the night before.

Mr. X was quite indignant—so indignant, in fact, that he took his case to arbitration, and in a few weeks, management and the discharged worker were telling their stories to an industrial Solomon.

Liberty or license?

Management had short and simple reasons for cutting Mr. X off the payroll. It argued:

1. The worker brought intoxicants into the plant (internally). This was against company rules.

2. Mr. X showed that he was an irresponsible person by flashing a gun in a threatening manner.

Mr. X told the arbitrator that he did nothing to warrant such a drastic penalty. True, he admitted, he had hoisted a few at the local bar and had acted exceedingly unsocial after that.

"But," he said, "the company cannot fire me for anything I do on my own time. I wasn't working then. I had finished my shift. I didn't do anything that interfered with production, and I have a good record with the company. Put me back to work."

The arbitration board ruled: "X's individual freedom to do as he pleases on his own time and his personal liberty do not allow him to take matters into his own hands to the point of invading the company property and threatening a fellow employee. The company has not only the right but the duty to manage its operations safely. X was fired for cause, and the grievance is denied."

Every minute of every working hour arbitrators are called upon to settle human conflicts in the workaday world. More than 50,000 labor arbitrations are held every year in the United States. Some of the issues that go before these industrial referees are technical complaints involving hours, wages, and working conditions—the administrative minutae of union agreements. But most of the conflicts deal with deeper involvements between boss and employee.

Managerial decisions involving jobs and people are being increasingly

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Here are some of the reasons why: Because we belong to every major securities exchange . . . Because we have a national network of 120 offices . . . Because we've linked those offices by more than 100,000 miles of private wire and can quickly canvass literally thousands of contacts from coast-to-coast for evidence of interest in a given security.

If those facilities can ever be useful to you, either in the sale *or* purchase of large blocks of securities, we'll be happy to consult with you at your convenience—and in confidence—of course. Simply contact William H. Culbertson, *Vice President*, Sales Division.

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challenged. More and more, it is the arbitrator, a third party, and not management that is having the "last word" in employer-employee relations.

Most of the problems that come before arbitrators are not labor relations in the strict sense of the term. For example, it would seem that a man's marital problems would be outside the judicial orbit of these labor peacemakers. Yet, Arbitrator A. T. Singletary, who arrived to settle a "labor" dispute, heard this story:

Bill Allen and his wife bickered, argued, and fought. Their incompatibility finally spilled over into Bill's working life. She would phone him during his shift and begin where she had left off after breakfast. Bill's marital plight became common knowledge at the plant. Finally, the Allens got a divorce. The custody of the child was awarded to the wife.

One month, Bill failed to make a payment for the child's support, and someone came to the plant to serve

Labor Tips and Trends

Down: Shrinking membership rolls embarrass union leaders. AFL-CIO press releases rarely mention membership figures, now below 13 million. At a recent press conference, President George Meany hesitated when asked to estimate the number of current dues payers. Only after prodding did he admit that the 13.5 million figure, which the AFL-CIO had been using as its standard, was now too high. Last February, membership hit a postwar low—12,750,000. Union economists see this dip as temporary. They point out that the long-term trend in union membership has been upward.

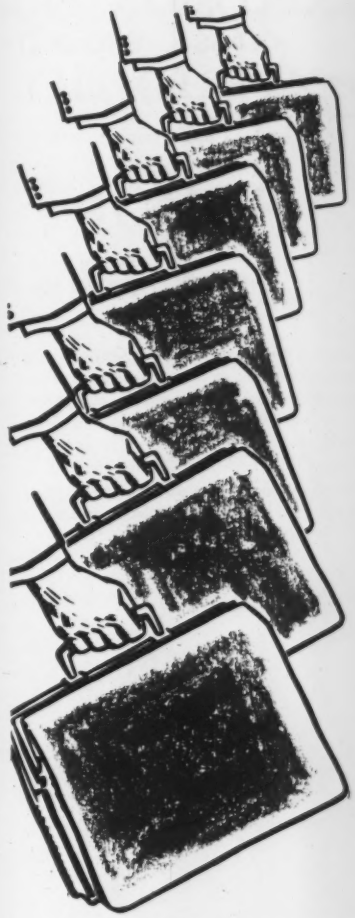
Be a Worker and See the World: Travel clubs as part of industrial recreation programs are booming. Motorola, Inc., of Chicago recently arranged a "Nassau Houseparty" for hourly-paid vacationists. At Thompson Ramo Wooldridge of Cleveland, management polled employees on what part of the world they would like to visit on their vacation. Hawaii took first place. A travel agency cooperated with company to arrange a bargain-price tour of the new state. Last year, a similar program was arranged for a tour of Europe.

New Patterns: Foremen are playing an increasingly active role in collective bargaining strategy. More companies now hold pre-negotiation supervisory conferences to find out how specific clauses of the union contract worked out at the employee-foremen level. Foremen contribute their real-life experiences (with union approval) and, thus, provide company negotiators with clues as to how to shape management demands at bargaining time. A DUN'S REVIEW phone survey of 80 industrial relations departments indicates that 90 per cent use their foremen as sounding boards in negotiation preparations.

For the Ladies: Girl Fridays at the International Resistance Company in Philadelphia get a royal course in management methods and policy formulation. Every secretary to a department head attends a monthly training session which includes talks by VIP's on company activities. The girls are often let in on the kinds of policy matters that their bosses get at executive committee meetings.

"We have found," says Walter Powell, industrial relations vice president, who sparked the idea, "that as a result of these meetings executive secretaries can take a load of details off their bosses' shoulders. For one, they can answer many routine questions from employees on policy and organizational changes. But, more important, these meetings give secretaries the status of an elite group—which, indeed, they should have."

What Price Community Relations? When Cities Service Company built its $27 million refinery in Toronto, one dollar out of every eight went for "good citizenship." The refinery was designed to eliminate such community nuisances as noise, traffic, smog, and water pollution. Example: the refinery's water purification plant returns water to Lake Ontario purer than before it was used.



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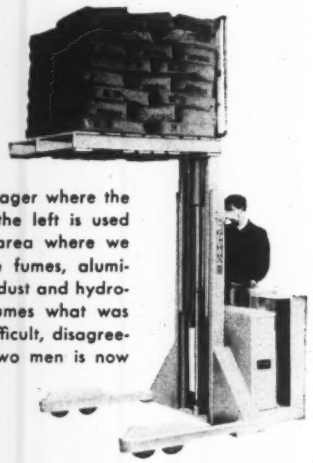
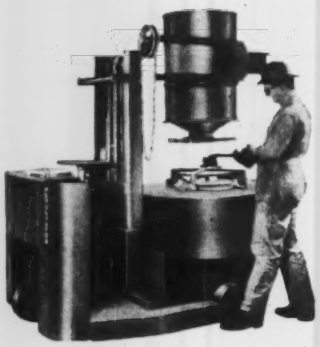
8 YEARS ON THE JOB

Since 1951 Revolvator Go-Getters, designed for this service, have been specifically approved by leading industrial insurance companies for use in Class I Group D explosion hazardous areas in major plants from coast to coast. User comments like those below show that the Go-Getter has been more than approved by safety authorities . . . it has been proven in use for eight years.

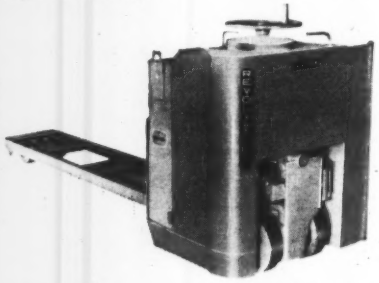


The Plant Manager where the Go-Getter at the left is used says, "In an area where we have explosive fumes, aluminum choloride dust and hydrochloric acid fumes what was previously a difficult, disagreeable job for two men is now easy for one."



Air in the color mixing room of the finishing plant where the Go-Getter above is used carries organic dusts as well as explosive fumes. The foreman says, "The men like the Go-Getter and use it steadily."

Executives in the chemical plant where the model to the right is used say, "We use the Go-Getter in our area which has the most severe hazard." Another plant where quantities of explosive solvents are used for "wash down" reports of a similar model, "We are well pleased and we are ordering another Go-Getter."



A major insurance association writes, "We are quite willing to accept the unit (Go-Getter) as it is designed with explosion proof housings for the motors and controls as usually specified for electrical equipment that can be safely used in explosion hazardous areas."

A nationally known safety engineer writes, " . . . calling the existence of this line of trucks to the attention of the industry as we believe many would want to know about this equipment."

The Go-Getter is the latest addition to a complete line of materials handling equipment for use in explosion hazardous areas that Revolvator has been building for over a quarter of a century.

REVOLVATOR CO.
8702 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

a summons. Another time, he went to visit the child, and his wife slammed the door in his face. He broke it down. She filed a criminal charge against him, and arresting officers came to the plant to take Bill to court. Fed up with all this, the company fired him. He took his case to arbitration.

The company's position was that Allen's domestic trials were a matter of public knowledge. Employees all chattered about it, and this made for a disturbing atmosphere. Furthermore, the company charged, Allen's family difficulties caused him to neglect his duties, even though he had the kind of job that couldn't be measured in direct output.

Allen's main argument was that his private life was his own, and his personal problems did not interfere with his work to the extent of warranting discharge.

Arbitrator Singletary ruled for the company: "The Arbitrator finds that Mr. Allen's marital difficulties had reached such proportions that they did, in fact, interfere with the normal discharge of his duties as an employee of the company. The discharge was justified."

Management calls his hand

A man playing a cozy game of poker in a friend's house created a situation that defies any standard definition of a labor dispute. Bradley, a seven-year man, called in sick on Friday. That night, his foreman heard that Bradley was up until 5 A.M. playing poker with friends. Two days later, when the "sick" worker showed up, he was fired.

"If you're well enough to play poker until 5 in the morning, you're well enough to come to work," his boss told him.

When the case came to arbitration, Arbitrator Charles H. Livengood handed down this decision:

"The company's position seems to be that if Bradley was well enough to play cards all night, he was well enough to work. But that does not follow. Playing a friendly game in a warm, comfortable room with ample personal conveniences is not the same thing as performing physical labor in a shop. A person who is sick enough to justify missing his work as a mechanic may nevertheless feel like reading or playing cards. Here, at worst, the evidence merely suggests that Bradley may have shown poor

judgment in going out and sitting up with a severe cold. The company can hardly undertake to police the way employees care for their health away from the shop. In any event, there is nothing to show that Bradley's absence was prolonged by what he did."

Not long ago, Arbitrator Ralph T. Seward sat on a case which revolved around this question: Must an employee be paid for the time he spent being bawled out by his boss? The facts were:

Harry Jandle was home looking at television when he got a phone call from his supervisor. The foreman was good and sore. It seems that Harry had made a bad error in his work that day. "You come in tomorrow. I want to talk to you about it," the supervisor boomed over the phone.

"But tomorrow's my day off," Harry pleaded.

"You do as you're told, or you'll have lots of days off," the supervisor answered and hung up.

Premium pay for censure

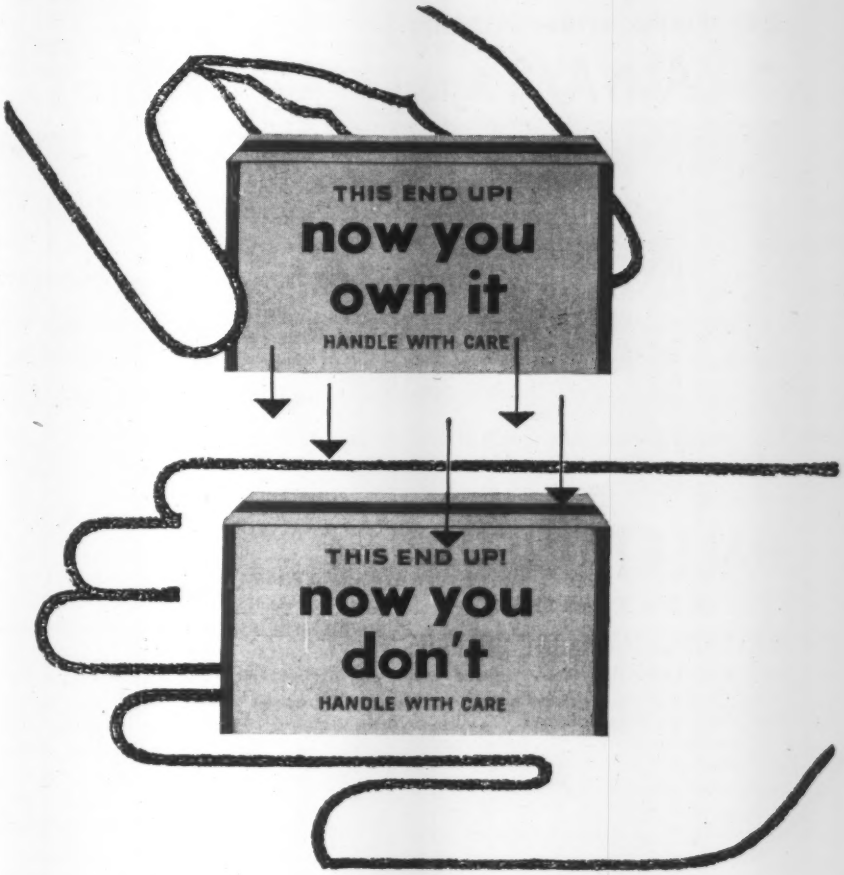
The next day, Harry showed up at the supervisor's office and got a bawling-out that took about an hour. The next week, Harry put in a request for four hours "call-in" pay. The management turned down Harry's demand. It said he was not called in to work but to be bawled out.

Oh, no, maintained Harry. A man's day off is sacred, and if the boss calls him in for any reason whatsoever, the man must be paid.

Arbitrator Seward pondered the situation and came up with this award:

"An employee's job obviously includes more than the mere physical performance of certain tasks. It includes his participation, as required, in the process of inter-communication between superiors and himself. The giving and receiving of orders and instructions is only one phase of the supervisory process. Another and equally important phase is the sound administration of discipline. Thus, the employee is 'working' when he is listening to words of warning or reprimand. If he is required to participate in a conversation looking toward the improved performance of his assigned tasks, then such participation is part of his job, and he is entitled to be paid accordingly."

And so it goes—day in and day out—labor and management settling those little differences that contain the seeds of big conflicts. END



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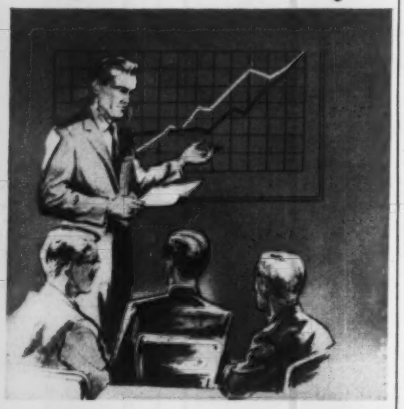

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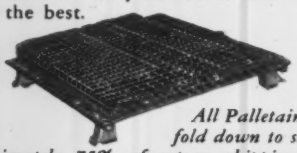

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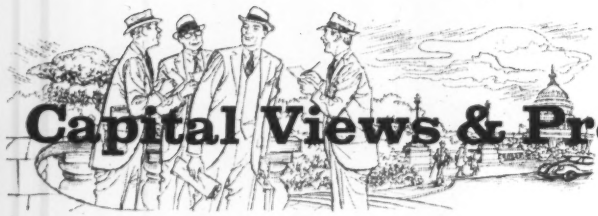


Capital Views & Previews

PAUL WOOTON

The Soviet challenge: A talk with CIA Chief Allen W. Dulles

IN its efforts to keep Government policy makers informed of developments within the Soviet Union, the U.S. Central Intelligence Agency is putting almost as much emphasis on economic as on military and other intelligence. The reason is simple and sobering: The Kremlin has launched an all-out economic offensive against the United States which it fully expects will result in the overthrow of the free enterprise system.

Allen Walsh Dulles, director of the CIA and brother of the late Secretary of State, is convinced that Nikita Khrushchev, whom he regards as the supreme head of an oligarchic state, expects to gain Soviet objectives by measures short of war. If we keep up our defenses and our retaliatory capacity, the chances are against a nuclear attack on the United States, according to Dulles. The greater immediate danger, he feels, is from slow attrition of the power of the Free World by political warfare, economic penetration, and subversion.

An ever-growing share of the CIA's information-gathering activity is devoted to finding ou what progress the Soviets are making toward achieving their goal of international superiority through economic competition with the capitalist countries. All intelligence components of the Government, working through the Agency, pool their knowledge, share their interpretations, and work together to make a unified estimate of what it means.

Red drive gathers steam

The picture that emerges clearly shows that the Russian offensive is gaining momentum. As Dulles points out, in the short space of 30 years, the Soviet Union has grown from a relatively backward country to the second largest industrial nation in the world. The pace of its industrialization is more rapid than ours.

Consumers last

Because of what he calls "forced draft industrialization," Dulles figures that at least 30 per cent of Russia's gross national product is devoted to investment, largely in heavy industry at the expense of consumer goods and the standard of living generally. In the United States, less than 20 per cent of the national income is devoted to comparable manufacturing. Russian citizens get only one-third as much in the way of consumer goods as do American citizens.

Some specific comparisons point

Allen W. Dulles

up the difference in emphasis in the Soviet and American economies. We produce 50 times as many automobiles as does Russia, but the Russians manufacture four machine tools to each one made here. We build twenty times their highway mileage, yet the USSR spends substantially more on railroads than we do. We spend twice as much on housing, and the amount of living space per capita in the United States is four times greater than in Russia.

By converting Soviet statistics, the CIA is able to arrive at a close approximation of the output of coal, petroleum, steel, chemicals, textiles, electrical power, and other products.

How close are the Russians?

Russian authorities claim that the present physical volume of their industrial output is already half that of the United States. Information gathered by the CIA, however, indicates that it is much closer to 40 per cent of U.S. output.

The Soviet Union boasts of surpassing U.S. production by 1970 in both volume and per capita output. Dulles does not believe the Russians will reach any such goal, but he thinks American industry must not be oblivious to the challenge.

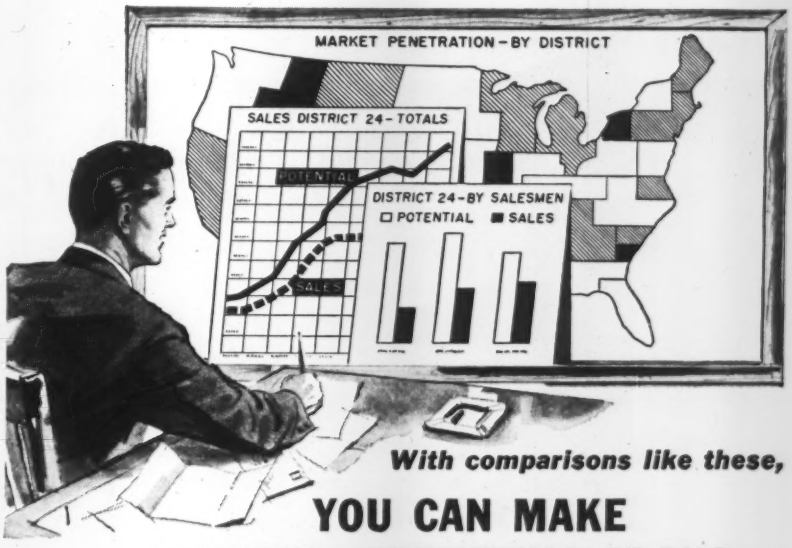
In the conduct of foreign trade, he points out, the United States never before has confronted such a competitor—a monolithic government which can dump, barter, and subsidize. It is a type of competition which is very difficult to meet.

Winning the neutrals

CIA fact-finding behind the iron and bamboo curtains shows that the Soviet Union is pouring millions into neutral and uncommitted countries in the form of loans and technical assistance. Dulles is convinced, therefore, that the U.S. foreign aid program is one of the most effective ways of forestalling Soviet economic penetration of such nations and that business men should use their influence in support of it.

The Russians, Dulles says, are picking out the most vulnerable spots in which to use trade and aid to prevent alignment with the West. They have hordes of missionaries of communism abroad, working and scheming for the industrial advancement of Russia.

We must marshal our economic assets with those of the other free



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countries to meet Communist methods of economic penetration, Dulles believes. We cannot allow the Communists to devote a greater share of their power, skill, and resources to our destruction than we are willing to dedicate to our own preservation.

The Soviet Union is not without troubles of its own, however, according to CIA information. Lately, there appears to be increasing awareness, particularly in neutral countries, that there are strings attached to commercial deals with the Soviets. Among the newly emerging nations, a more favorable attitude toward American goods is developing because of their growing fear that Russian-Chinese Communism is a greater threat to their independence than is any likely recurrence of colonialism.

A headache for Nikita

Khrushchev's more acute problem, says the CIA chief, is meeting the increasing demands of his own people for a bigger share in total production.

Although most of the Russian experts think internal revolt or even an outburst of public dissatisfaction is remote, Dulles believes the Communist leaders face a future problem in dealing with a growing body of highly educated, technically competent men and women who want and will sooner or later acquire more freedom.

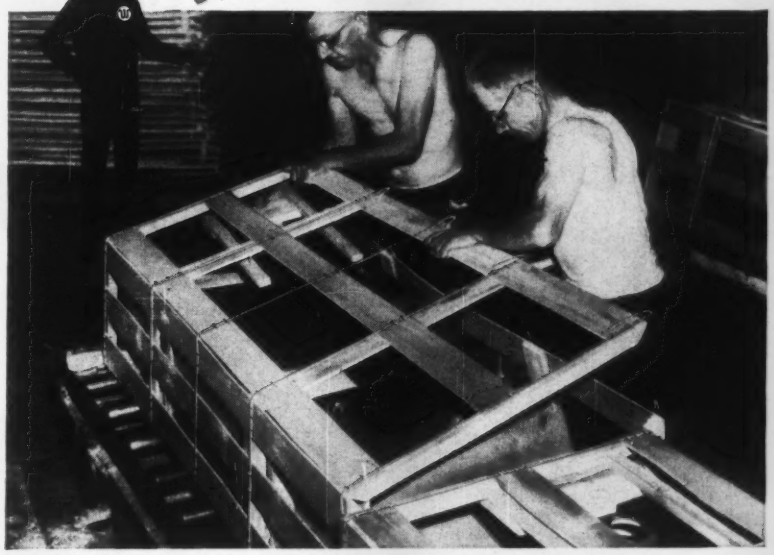
They are bound to produce men of ambition who cannot be fooled easily, Dulles says. It will not be easy to restrain them when they begin to question why they should be subjected to police-state discipline, why they do not receive a greater share of the fruit of their labors, and why they are not allowed to participate in their own governing.

Second best won't do

Complacency in the face of the Soviet threat is a great danger to America's national defense, Dulles firmly contends.

The Russians have great scientific and technical skill, he says. They may be willing to work longer hours and may concentrate on certain objectives in an effort to outdo us. The United States can't afford to be second best in either the military or the industrial field or be behind in its relations with uncommitted, newly developing countries which look abroad for help in their industrialization and all that goes toward raising their standards of living. END

MEET THE MAN FROM WIREBOUND



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In the Mansfield, Ohio plant of Ingersoll-Humphryes Div., Borg-Warner Corp., a Crate Making Department was kept busy supplying special wooden boxes for shipment of the quality enameled cast iron plumbing fixtures that have made this company famous.

Then came the Man from Wirebound. With the help of Ingersoll-Humphryes' control and packaging executives he custom-engineered sample Wirebound crates and put them to test. The results were astounding.

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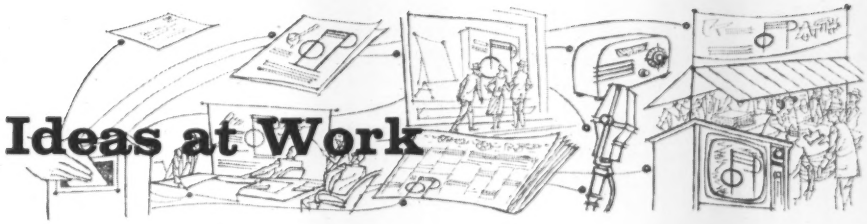

Ideas at Work

- *Company lets housewives pick designs*
- *Tips on boosting worker output*
- *Picture album cuts paperwork*

Women Can't Be Wrong

It's a known fact that the women of America turn thumbs down on three out of four new household products offered them. Rather than risk such odds, the Corning Glass Company has put the housewife on its market research team.

Preliminary designs of new Corning products are put on display at the Market Research Opinion Center, housed in the Corning Glass Center at Corning, N.Y. Half a million people visit the museum and exhibits each year. And thousands of them (mostly women) stop at the Opinion Center to tell the company what they like or don't like about its new designs (see photo above).

After weighing several thousand opinions, Corning designers have a pretty good idea of what kind of coffee percolator or mixing bowl the women will buy.

How accurate are the Opinion Center findings? The company says thus far they've never been wrong.

Little Things That Count

Some of the methods used by the modern foreman to spur worker output are scorned by the old timers as "gimmicks." Maybe so, but the fact is —they work!

Here are a couple of the simple techniques for increasing productivity reported at a recent American Management Association personnel conference:

Work in the wire-stamping department of one company was boring and repetitive—women stamped numbers on wires all day. The foreman knew he wasn't getting the most out of his department, but he didn't know what to do about it. The women's pay was adequate, working conditions were good, coffee and rest breaks were ample, and there was no obvious loafing —they just didn't seem to work too hard.

Finally, the foreman devised a chart to show daily production figures. The chart had peaks and valleys denoting averages. Whenever production went above the peak, a balloon was floated over the "mountain." Within weeks, production climbed almost 50 per cent. There was no other incentive. Apparently, the women just liked to see the balloon go up.

In non-repetitive work, an effective production booster is work sampling. A foreman at another company thought his crew was taking too long to operate a new machine. To make sure, he made up a check chart on which he listed, alongside each employee's name, time spent working, waiting for material, talking, loafing, and so on.

After making spot checks for several weeks, the foreman concluded that the men were spending only 64 per cent of their time on the job. With this standard in mind, he told the crew that he was going to make spot checks in the future. Within a week, time spent on the job had risen to 83 per cent.

Graphic Progress Report

One picture album is worth a thousand written reports, a Midwest manufacturer has discovered.

Pictures are used at the Wolverine Tube Division of Calumet & Hecla,

SPACE

3000 sq. miles in the Gobi Desert is foolishness . . .

3000 sq. miles in metropolitan New York or Chicago is impossible . . .

but...

3000 sq. miles just across the river from downtown Philadelphia and overnight to the world's richest market spells P-R-O-F-I-T for your new plant.
Space for now . . . Space to grow! Broad acres, undeveloped. Flat, well-drained land for low-cost building. Parking space "thrown in." Small, friendly home communities. That's the kind of money-making space waiting for your plant in

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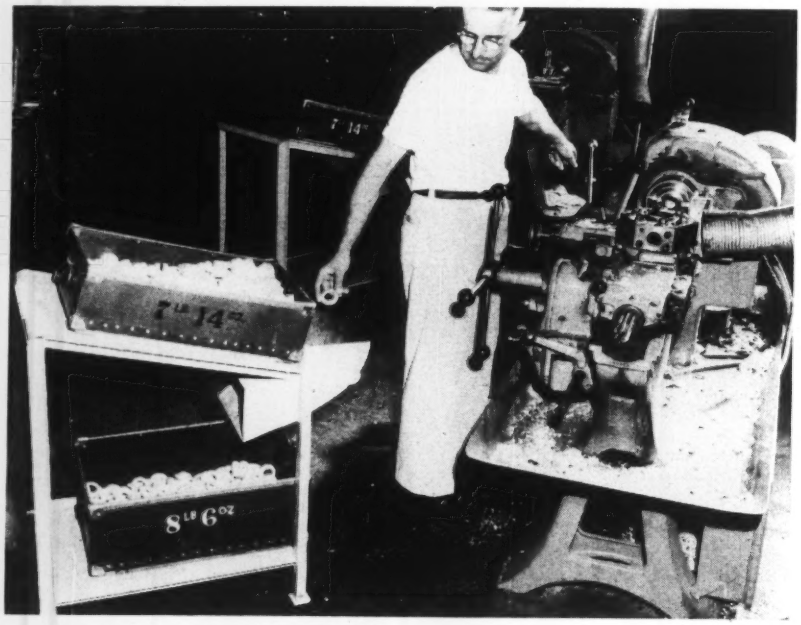
Inc., Allen Park, Mich., to record new cost-cutting procedures, the installation of new equipment, the birth of a new product, the promotion of company executives, and the proceedings of special training programs. The photos are mounted in a loose-leaf album and identified by a short caption.

The photos come from two sources: They're either taken at the plant manager's request, or they're copies of plant pictures taken for other purposes, such as publicity, advertising, promotion, employee communications, and industrial engineering.

Wolverine Tube has found several uses for the picture album. First, and most important, it helps the plant manager keep tabs on operations and reduces paperwork. It is also a good source for story ideas for company publications and for advertising and publicity photos, particularly for historical or flashback presentations. It's also useful in briefing visitors on plant operations.

No Lost Motion



One reliable way to speed production and lower costs is to keep pick-up and put-away operations as close together as possible. A plastics fabricator has done just that by placing special material handling trucks next to lathes, punch presses, and other machines.

The trucks are equipped with a delivery chute and two lightweight Kennett vulcanized tote trays which hold finished and unfinished parts. The top shelves on the trucks hold tote trays of unmachined parts in an inclined position and at a prescribed height. Operators can return machined parts to the trucks and pick up unmachined blanks with a single arm motion (see photo above). The delivery chutes direct finished parts into the lower tote trays, eliminating reaching, stooping, and unnecessary walking.

Reaching the Big Buyer

Sales managers know that getting through to the man who makes a customer's buying decisions can be as difficult as it is rewarding. Here is the plan Standard Oil Company of Indiana used for getting its promotional material into the hands of trucking company managers who control major purchases:

Promotional brochures showing good truck service stops, instead of being handed out to drivers at service stops, were sent to the trucking company managers, who in the process of distributing the useful item to their drivers absorbed Standard Oil's sales message.

Spreading the Word

Have you tried this idea for getting more mileage out of your sales promotion aids? At their request, American Seating Company, Grand Rapids, Mich., gave its employees the opportunity to buy some of the sales promotion items used by company salesmen. The briefcases, cigarette lighters, cuff links and tie pins, pens, pencils, drinking glasses, and salad bowls—each marked with the American Seating insignia—were sold at bargain prices in the company cafeteria and through the employee house organ.

Be Our Guest

Some out-of-town companies that maintain permanent hotel suites in Washington, New York, and other big cities to which their executives frequently travel offer their employees as an additional fringe benefit free use of the suites on weekends, when they are usually empty. The general rule is that no employee and his family can use the suite more than once a year.

Housing Service Fringe

Free advice on building and buying homes is an unusual fringe benefit that employees of the Gates Rubber Company, Denver, Colo., have enjoyed for the past twenty years.

A real estate consultant is at the plant every day to offer Gates employees his advice on all phases of home construction, the purchase of a house or property, remodeling or rebuilding, and financing.

Since 1946, some 4,000 of the company's 6,800 employees have taken advantage of the service. The company believes the good will it gains by helping its employees in this way more than makes up for the expense of the program.

Suggestion Stimulant

To pep up its suggestion system the Cleveland (Ohio) Electric Illuminating Company sent a jig saw puzzle to each employee's home, along with an honor roll of men and women who had proposals accepted in the first six months of the year.

The assembled puzzle showed a picture of Thomas A. Edison with the quotation: "There's a way to do it better . . . find it." —C. K.

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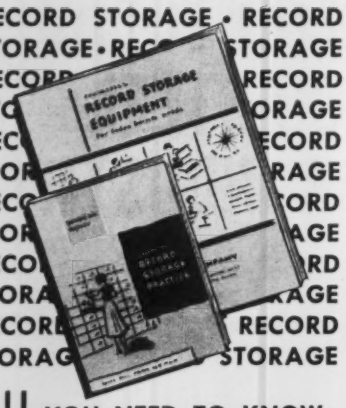

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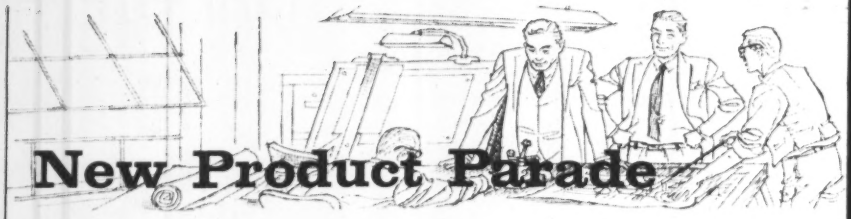
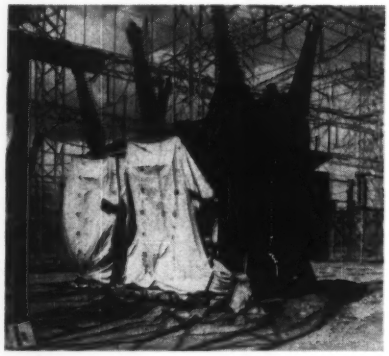
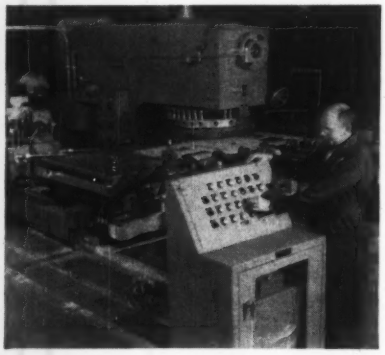


New Product Parade

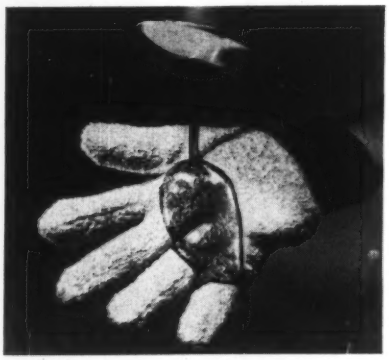
MOUTHFUL: This trailer picks up and deposits its entire load in one operation. The trailer is backed over prestacked pallets, and a built-in hydraulic elevator lifts, centers, and clamps the load in place. The manufacturer claims savings in trucking time and man-hours needed at the dock. *Straddle Trailer Co., 1701 East Louisiana Ave., Denver, Colo.*



COVER-UP: Synthetic fabrics are the new look in protective coverings. This one, made of vinyl coated nylon, is said to be flame-proof; it's recommended for jobs where the sparks fly. Light in weight, the fabric has a high tear strength, won't stiffen or crack in cold weather, and won't rot if stored wet. *"Herculite," Herculite Protective Fabrics, 125 Sussex Ave., Newark 3.*

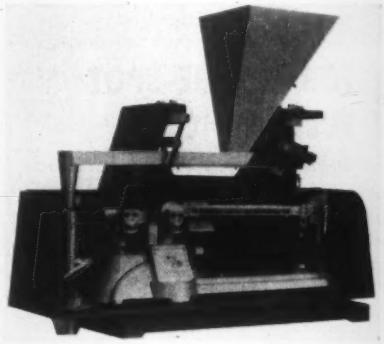


TAPED PUNCHING: This new tape-controlled turret punch press automatically locates and pierces holes in metal at a rate of 600 to 800 inches per minute. Jobs can be stored on tape, re-run as needed. The 36 station turret will produce openings up to 8 inches in diameter. *"Wiedematic," Wiedemann Machine Company, Gulph Road, King of Prussia, Pa.*

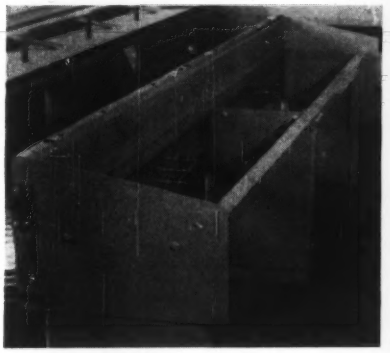


OIL WON'T SPOIL: Oil and grease won't penetrate these new, chemically treated terry cloth work gloves. They are said to retain their positive grip when handling oiled or greased material, and can be repeatedly dry-cleaned without losing their oil repellent characteristics. Glove-life up to seven times longer is claimed. *"Oilmacs," Jomac, Inc., Philadelphia 38.*

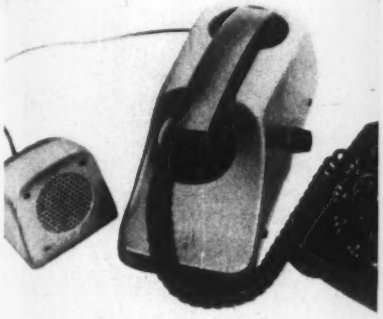
» *This month: self-loading trailer; infrared heater; intercoms; protective covering; punching metal with tape; oil resistant gloves; prefabricated power channels; strapping machine; automatic scale; vibration absorber; hydraulic tailgate; adhesive in rope form; emergency light; brush-on zinc; screwdriver drill.*



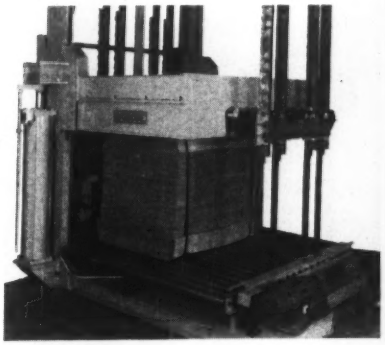
LIGHTWEIGHT: Small quantities of dry materials can be weighed automatically on the production line with this scale. It weighs from 1 to 100 grams at speeds up to fifteen weighings a minute. Fully automatic, the scale can be synchronized with other machines. Attachments will convert it to specific production needs. *"Mini-Weigh," Glencarry Processes, Inc., Bay Shore, N.Y.*



LIFE LINE: These prefabricated units hold all the service lines necessary for plant operation. They will carry any type of power from electrical to steam, any facility from drain lines to refrigerants, and any communications system. Angular units fit any layout. *"Alden Channel," Alden Systems Company, Alden Research Center, 56 Washington St., Westboro, Mass.*



PORTABLE INTERCOM: Here's an economical way to convert any telephone to an intercom. The telephone receiver cradles on a portable, transistorized, battery-operated speaker. Conversations can be held up to 30 or 40 distant. The battery is good for 1,000 hours of use. *"Fone-Master," North American Industries, Dept. X-255, 101 West 31st St., New York 1.*



STRAPPER: This compression strapping machine does the entire operation itself. According to the manufacturer, it compresses the load, feeds the strap, applies tension, and seals the strap in seconds. One man can handle the strapping operation as an integrated part of production. *"CSM," Signode Steel Strapping Company, 2600 North Western Ave., Chicago 47.*

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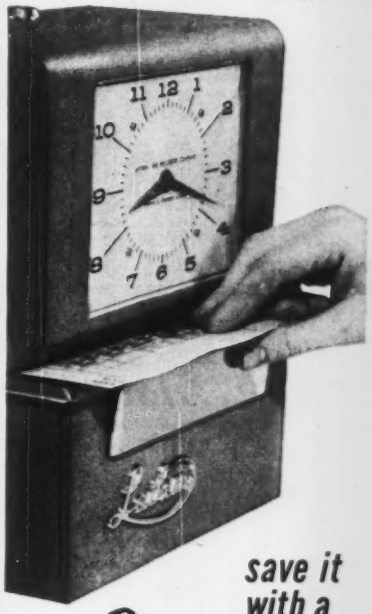

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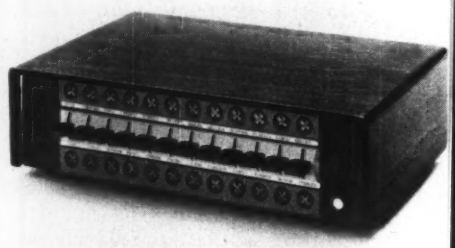
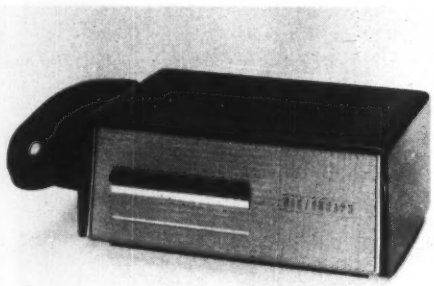
HUMANIZED INTERCOM: This fully transistorized intercommunication system can double as a Girl Friday. It features a "magic eye" which indicates who is calling. According to the manufacturer, it can be equipped to

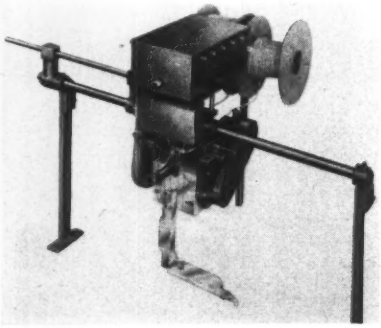




take dictation, open doors, warm the morning coffee, and even roll out a bar. The system requires no switchboard operator and permits communication with as many as 24 people. Depending on the complexity of the installation, cost can range from $250 for a "typically small" system to more than $100,000 for a large one. *"Dictograph," Dictograph Products, Inc., Jamaica, N.Y.*

»

ROPES OF GLUE: This thermoplastic adhesive in rope form bonds material at high production speeds. It is fed from coils through an applicator, which melts and applies the correct amount of adhesive in dots, dashes, straight lines, or angles, depending on

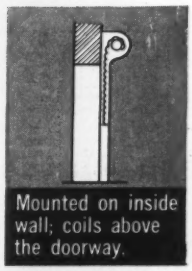


the applicator used. Since only a limited amount of cement is heated, and for a short period, degradation of the adhesive is kept to a minimum. Several formulations are available for bonding a variety of materials. *"Thermogrip," United Shoe Manufacturing Corp., 140 Federal St., Boston.*

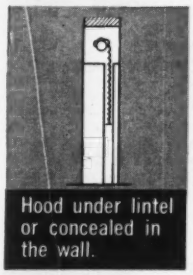
PORTABLE SUNSHINE: Operating on bottled propane gas, this infrared radiant heater provides instant sunshine-like warmth indoors or out. The infrared rays can be directed to warm workmen, tools, or materials, without

heating the surrounding air. The smallest unit weighs 8 pounds and will thaw engines, dry paint, and warm small work areas. Infrared rays are produced by burning propane gas on a perforated ceramic mat. *"Handi-Heater," Perfection Industries, Division of Hupp Corp., 1135 Ivanhoe Road, Cleveland 10.*

SHOCK ABSORBER: Here's a synthetic material that is said to absorb up to 90 per cent of machine vibrations. Layers of vinyl plastic reinforced with fiber glass are fused together in sheets which can be cut to fit any

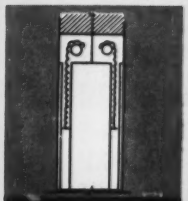

Mounted on inside wall; coils above the doorway.

On outside wall; leaves all ceiling space clear.

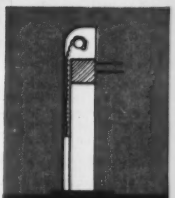

Hood under lintel or concealed in the wall.

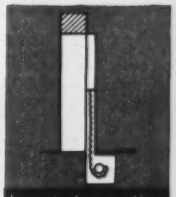
Horizontal mounting (ventilator, observatory or similar openings).

Sloping doorway (as for hoppers, chutes, etc.).


Kinnear Steel Rolling Fire Doors on either side of wall.*

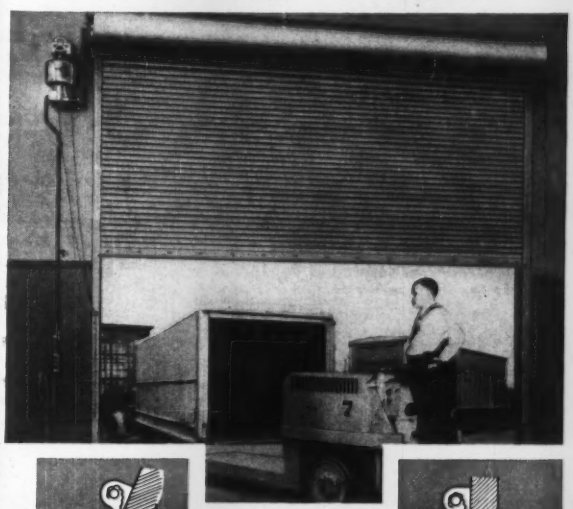
Hood above roof or upper floor (no headroom needed).


Hood above lintel or atop wall (permits low ceiling).


Inverted mounting (door coils below the sill level).

For VERSATILE Door Efficiency in any type of building or doorway construction

Kinnear Rolling Doors



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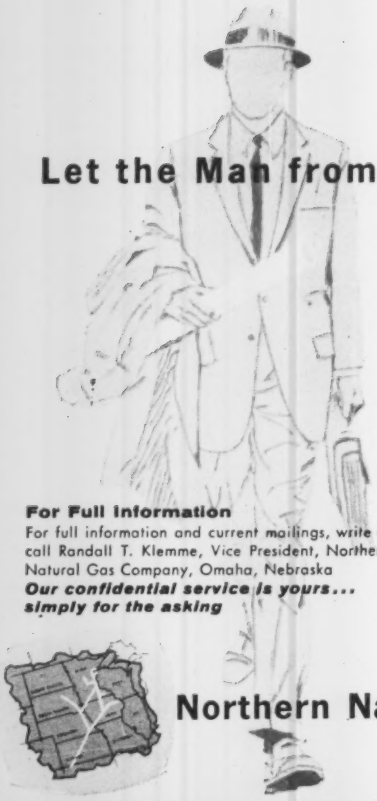
machine. The material is impervious to grease, solvents, and most chemicals. Installation requires no adhesives or bolts, and the sheets can be re-used as needed. The cost of equipping an average machine is under $10. *"Vibra-Check," Lowell Industries, Inc., Allston Station, Boston 34.*

DISAPPEARING ACT: The lifting tailgate on this truck hides out of the way when not in use. The tailgate permits trucks to back up flush with loading docks when available and comes out when needed for floor-to-truck loading. According to the manufacturer, the hydraulic elevating system, which works on a push-up rather than pull-up principle, will lift a 1,200-pound payload. *"Hide-A-Gate," H. S. Watson Company, 1316 67th St., Emeryville 8, Calif.*

READY LIGHT: This new low-cost lighting system automatically turns itself on when the power supply fails. It will handle four 25 watt floodlights, three in remote positions. The lights are fully adjustable in any direction. Because it's self-charging, the unit is always ready for emergency use. The manufacturer states that the power unit is designed and built to withstand years of constant slow charging. *"Yorklite," York Lighting, Inc., 339 West Philadelphia St., York, Pa.*

ZINC COATING: A new protective coating for steel can be applied with regular painting equipment. A single coat is said to give complete protection from water, salt spray, and abrasion. It is recommended for use wherever galvanizing is suitable. The coating is inorganic and cures itself to full hardness without the application of a separate curing solution. It is not volatile, flammable, or toxic, and may be used in poorly ventilated areas. *"Zinkote," Amercoat Corp., 4809 Firestone Blvd., South Gate, Calif.*

SCREWDRIVER/DRILL: A new power tool combines the properties of a drill and screwdriver in one unit. Used as a drill, it will accept any kind of bit. As a screwdriver, the mechanism is reversible, and a clutch engages only when forward pressure is exerted. *"Scru-Drill," Black & Decker Mfg. Co., Towson 4, Md.* —E.G.



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Of Business and Beatniks

The beatnik's scorn for our industrial pattern is an old complaint in a new day of social and political circumstance. The bleat of the beatnik through each generation is the result of his discovery of the inequities of life and the ho-hum attitude of the competitive world that lives for the day's material values. The whimper of the beatnik in his chosen realm of selfpity is understandable in a day when royal patronage is scarce.

Yet, for all that, our age is not insensitive to "art for art's sake," nor is our tradition ignorant of aesthetic compensations. Paul Revere, father of American manufacturing, was an artist whose designs in silver are collectors' items. Samuel F. B. Morse is honored as a pioneer in American portrait painting, as well as for his genius in mastering the communicating potential of the electric spark. Archibald McLeish, a lawyer, is the poet-dramatist of "J.B.," one of our most acclaimed plays. Wallace Stevens, late vice president of an insurance company, was a top-ranking poet of the new school.

Both the Salmagundi Club, devoted to the art of painting, and the Poetry Society of America boast of executives, tradesmen, doctors, lawyers, clerks, and skilled laborers who ask no special deference from the world about them, and do their best to interpret its threats and promises while earning an honest dollar in the market place.

A Thrifty Public

One of the hardest lessons for business borrowers to learn is that someone else has to save the money before they can get it. And the best proof that the public hasn't forgotten the lesson of basic thrift is the rush for the new Government 5 per cent bonds, which were oversubscribed ten times over. The saving public knows its percentage points, and there is nothing lazy about loose money when the inducement is right. Some of this money came out of hiding, but judging by the stability of savings as a percentage of disposable income, most of the eager dollars came from switches from E bonds and other convertible assets. By the way, Secretary Anderson, whatever happened to inflation? It seems to have lost a little of its steam in the last few months, thanks to the sagacity of John Q. and Maggie Public.

The Dynamic Decade Ahead

A searching analysis of "Industry's Job in a Dynamic Decade" will be presented in the December issue of DUN'S REVIEW. The ten-year span of 1950–1960 has equalled, in sensational scientific impact, if not in total gains, the achievements of the previous half century. What does the next decade 1960–1970 hold for business? It is a fascinating picture of risks and benefits, with a lot of question marks for management to consider.

The special DUN'S REVIEW report will present specific planning targets and will cover the prospects of key industries, the vision of top company presidents as they peer over the horizon, and the coming changes in marketing techniques, financing, and manpower management. Leading production and research specialists will offer their views on the shifts to be expected in production methods, materials, and equipment. The influences of mechanization and automation will be examined, with particular attention to the progress of integration of plant and office. Peter F. Drucker will sum up with a keen diagnostic analysis of management's ability to meet the demands of social and technological changes at home and abroad.

—A.M.S.

BELL SYSTEM TEAMWORK IS A VITAL FACTOR IN EFFICIENT, ECONOMICAL TELEPHONE SERVICE

Direct Distance Dialing is an example of the value of unified research, manufacture and operations

There are great advantages to the public and the nation in the way the Bell System is set up to provide telephone service. It is a very simple form of organization, with four essential parts.

Bell Telephone Laboratories does the research.

The Western Electric Company is the Bell System unit which does manufacturing, handles supply, and installs central office equipment.

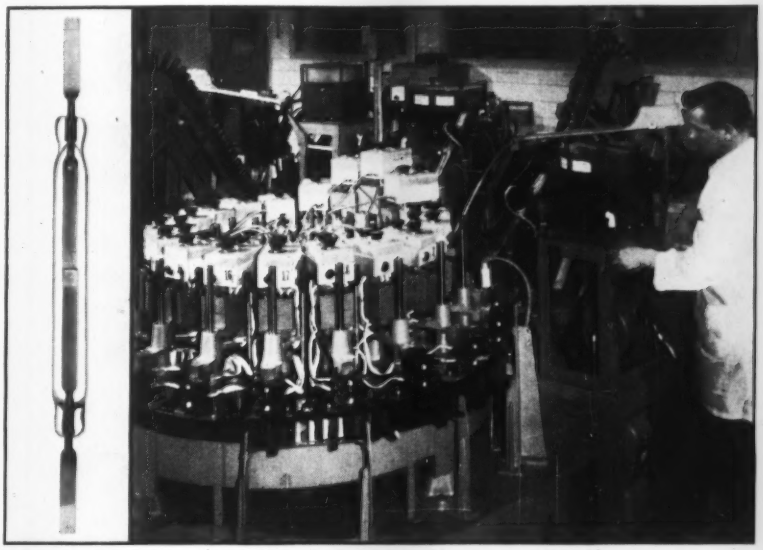
Twenty-one Bell Telephone operating companies provide service within their respective territories.

The American Telephone and Telegraph Company co-ordinates the whole enterprise and furnishes nationwide service over Long Distance lines.

Each is experienced and efficient in its own field. But the particular value of each is greatly extended because all four parts are in one organization and work together as a team.

Direct Distance Dialing—one of the greatest advances in the speed and convenience of telephone service—is an example of the value of this unified setup.

Already more than 8,000,000 telephone customers in more than 700 localities can dial direct to as many as 46,000,000 telephones throughout the country. Each month there are more. Millions of others can dial direct over shorter out-of-town distances. Calls as far as 3000 miles away go through in seconds.



EXAMPLE OF TEAMWORK. At left is new fast-moving switch (actual size) used in Direct Distance Dialing. Many of them go into action automatically every time you dial. Enclosed in gas-filled glass tubes to assure perfect contacts. Made to last 40 years. The result of Bell Telephone Laboratories and Western Electric working together to get the best and most economical design. At right is remarkable new machine, designed by Western Electric, which automatically assembles 360 switches an hour at a very small cost.

All of this didn't just happen. It called for years of intensive planning, the invention of wholly new machines and equipment, and the development of new operating and accounting techniques.

Research alone couldn't have done it. Neither manufacturing nor operations separately could have done it. And just money couldn't have done it, although it takes money and a lot of it for telephone improvement.

The simple truth is that it could never have been done so quickly and so economically without the unified setup of the Bell System.

For many a year it has given dynamic drive and direction to the business and provided the most and the best telephone service in the world.

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